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In the old fashioned way of travelling, "up hill and down dale," by post coaches, it was a great gratification (altogether lost in swift and smooth railroads,) to stop and rest for a moment on a hill-top, and survey the country behind and about us.

Something of this retrospect, is as refreshing and salutary in any other field of progress. Certainly, nothing will carry us on with such speed as to look neither to the right or left, to concentrate all our powers to this undeviating straight forward line. But, on the other hand, as he who travels in a rail-car knows little or nothing of the country, except the points of departure and arrival, so, if we do not occasionally take a slight glance at things about us, we shall be comparatively ignorant of many interesting features not in the straight line of "onward march."

One of the best signs of the times, for country people, is the increase of agricultural papers in number, and the still greater increase of subscribers. When the Albany Cultivator stood nearly alone in the field, some fifteen years ago, and boasted of 20,000 subscribers, it was thought a marvellous thing,—this interest in the intellectual part of farming; and there were those who thought it "could not last long." Now, that there are dozens of agricultural journals, with hundreds of thousands of readers, the interest in "book farming" is at last beginning to be looked upon as something significant; and the agricultural press *begins* to feel that it is of some account in the *commonwealth*. When it does something more—when it rouses the farming class to a sense of its rights in the state—its rights to good education, to agricultural schools, to a place in the legislative halls, where farmers shall not only be talked about in complimentary phrase, as "honest yeomen," or the "bone and sinew of the country," but see and feel, by the comparison of power and influence with the commercial and professional classes, that they are such, then we shall not hear so much about the dangers of the republic, but more of the intelligence and good sense of the people.

Among the good signs of the times, we notice the establishment of an Agricultural Bureau at Washington. At its head has been placed, for the present at least, Dr. LEE, the editor of the Genesee Farmer,—a man thoroughly alive to the interest of the cultivators of the soil, and awake to the unjust estimation practically placed upon farmers, both by themselves and the country at large. If he does his duty, as we

think he will, in collecting and presenting statistics, and other information showing the importance and value of the agriculture of the United States, we believe this Agricultural Bureau will be of vast service, if only in showing the farmers their own strength for all good purposes, if they will only first educate, and then use their powers.

In our more immediate department—horticulture—there are the most cheering signs of improvement in every direction. In all parts of the country, but especially at the West, horticultural societies are being formed. We think Ohio alone, numbers five at this moment. And as the bare formation of such societies shows the existence of a little more than private zeal on the part of the inhabitants in gardening matters, we may take it for granted that the culture of gardens is making progress at the west, with a rapidity commensurate to the wonderful growth there in other respects.

It is now no longer a question, indeed, that horticulture, both for profit and pleasure, is destined to become of far more consequence here than in any part of Europe. Take, for example, the matter of fruit culture. In no part of Europe has the planting of orchards been carried to the same extent as it has already been in the United States. There is no single peach orchard in France, Italy or Spain, that has produced the owner over $10,000 in a single year, like one in Delaware. There is no apple orchard in Germany or northern Europe, a single crop of which has yielded $12,000, like that of Pelham farm, on the Hudson. And these, though unusual examples of orchard cultivation by single proprietors, are mere fractions of the aggregate value of the products of the orchards in all of the northern states. The dried fruits—apples and peaches alone, of western New-York—amount in value to very large sums annually. And if we may judge by what we hear, orchard culture, especially of the finer market fruits, has only just commenced.

We doubt if, at any horticultural assemblage that ever convened in Europe, there has been the same amount of practical knowledge of pomology brought together as at the congress of fruit-growers, last October, in New-York. An intelligent nurseryman, who has just returned from a horticultural tour through Great Britain, assures us that at the present moment that country is astonishingly behind us, both in interest in, and knowledge of fruits. This he partly explains by the fact, that only half a dozen sorts of each fruit are usually grown in England, where we grow twenty or thirty; but mainly by the inferiority of their climate, which makes the culture of pears, peaches, &c., without walls, an impossibility, except in rare cases. Again, the fact that in this country there are so many landholders of intelligence among all classes of society—all busy in improving their places—whether they consist of a rood or a mile square—causes the interest in fine fruits to become so multiplied, that it assumes an importance here that is not dreamed of for it on the other side of the water.

With this wide spread interest, and the numberless experiments that large practice will beget, we trust we shall very soon see good results in the production of BEST *native* varieties of the finer fruits. Almost every experienced American horticulturist has become convinced that we shall never fairly "touch bottom," or rest on a solid foundation, till we get a good assortment of first rate pears, grapes, &c., raised from seeds in this country; sorts with sound constitutions, adapted to our climate and soil. With great respect for the unwearied labors of VAN MONS, and others who have

followed his plan of obtaining varieties, we have not the least faith in the vital powers of varieties so originated. They will, in the end, be entirely abandoned in this country for sound healthy seedlings, raised directly from vigorous parents.

Far as we are in advance of Europe, at this moment, in the matter of pomology, we are a long way behind in all that relates to ornamental gardening. Not that there is not a wonderful growing taste for ornamental gardening, especially in the northern and eastern states. Not, indeed, that we have not a number of country places that would be respectable in point of taste and good cultivation everywhere. But the popular feeling has not yet fairly set in this direction, and most persons are content with a few common trees, shrubs, and plants, when they might adorn their lawns and gardens with species of far greater beauty.

One of the greatest drawbacks to the satisfaction of pleasure grounds, in this country, is the want of knowledge as to how they should be managed to give rapid growth and fine verdure. The whole secret, as we have again and again stated, is in *deep soil;* if not naturally such, then made so by deep culture. Even the best English gardeners (always afraid, in their damp climate, of canker, if the roots go downwards,) are discouraged, and fail in our pleasure grounds, from the very fineness and dryness of our climate, because they will not *trench—trench—trench!* as we all must do, to have satisfactory lawns or pleasure grounds.

And this reminds us that a great want in the country, at the present time, is a sort of practical school for gardeners; not so much to teach them from the outset—for ninety-nine hundreths of all our gardeners are Europeans—as to *naturalize* their knowledge in this country. If one of the leading horticultural societies, with ready means, (that of Boston, for example,) would start an experimental garden, and making, by an agency abroad, some arrangement with deserving gardeners wishing to emigrate, take these *freshmen* on their arrival, and carry them through a season's practice in the experimental garden, and let them out at the end of a year really good gardeners for our climate, they would do an incalculable service to the cause of horticulture, and to thousands of employers, besides getting their own gardens (like that of the London Hort. Society,) cultivated at little cost.

It may be said that gardeners would not enter such a preparatory garden, since they could find places at once. We reply to this, that if they found, after they had had their year's practice in this garden, and could show its certificate of character and abilities, they could readily get $50 or $100 a year more—as we are confident they could—there would be no difficulty on this head.

The Belgian government has just established such a school, and placed it under the direction of M. Van Houtte, the well known horticulturist of Ghent. Something of the sort has been contemplated here, in connection with the agricultural college projected by this state. Considering the scarcity, nay, absolute dearth, of good gardeners among us at the present moment,—the supply not half equal to the demand,—it seems to us that some plan might be adopted by which we should not be at the mercy of those who only call themselves gardeners, but who also know little beyond the mysteries of cultivating that excellent plant, the *Solanum tuberosum*, commonly known as the potato. Good Mr. President Walker, of the Massachusetts Hort. Society, cannot you help us to an experimental garden and *experimented gardeners*, out of that $10,000 bequest left you last season?

ON THE FORMATION OF VINE BORDERS.

BY JAMES STEWART, WASHINGTON, D. C.

This subject has been so frequently and freely discussed, during the last few years, that any remarks I may make on the subject may be deemed superfluous. However, I will venture to give my views, relative to the construction of vine borders, and the best materials to be employed,—being the experience of many years, and in some of the most extensive establishments extant.

Some vine cultivators strongly insist upon the use of dead animals in vine borders, as the principal ingredient therein, and one necessary for the vine to produce its fruit in perfection. But I have frequently seen the ill effects of their use, particularly when introduced into borders that were planted *two or three years previously.* Although the vine is a gross feeder, still pure and well decomposed substances are necessary for its welfare. Nothing can be more pernicious, than to introduce a mass of putrid and decaying animal bodies, for the roots to extend their different ramifications in. In borders that have had dead bodies deposited in them, when made at the distance of 15 or 20 feet from where the vines are planted, so that they might become decomposed before the roots reached them, I never have been able to discover any superiority of the fruit, produced from such borders, over that of other borders, where nothing but soil was used, and their presence dispensed with. I also regard the system of making such large borders, in some instances fifty feet in width, to be a great error; although I may be told that additions at suitable periods, to encourage the roots, are not only beneficial but highly necessary to produce good grapes. Such, however, is not the fact, although at every extension of the border fine young rootlets will be found; but what will be the state of the roots in the immediate vicinity of the house where the vine is planted? Examine, and you will not find any of those young rootlets there, but large, thick, black roots, totally destitute of young fibres; and the further the vine border is extended, the further will the ill effects of it be perceived. In these large, diffused vine borders, when top-dressings of rich manure are applied, (*liquid manures, also,*) what guide has the cultivator to go by? He cannot *determine* at what particular locality the food for the vine is most required; and it is certain that those large black roots cannot assimilate, and take up food for the use of the vine,—(the small rootlets and fibres performing that office.) The use of the richest manures cannot be of any essential service to them; consequently, it involves a waste of labor, manure, and land also. I am decidedly of opinion that a border *ten feet in width*, containing a depth of soil of about *two and a half feet*, are superior to one of fifty feet, and is capable of furnishing the rafters of any vinery that may be erected. My reasons for so thinking are the following, viz: that in largely extended borders, you cannot determine where the stimulants are most wanted; and if applied all over the border, only a small portion of the roots are benefitted. Whereas, if the vines occupied a border of only ten feet in width, the whole of the roots would be *concentrated* in that space; and whatever stimulants were applied would

be immediately taken up by the young rootlets. The cultivator would then know *exactly where to place his stimulants;* and any application of liquid manure would be immediately felt by the vines. A border of this kind could be kept in the highest possible order; as the vines could be supplied with any quantity of food, in a pure state, for the immediate consumption of the vines. It may be said, that there is not a sufficient quantity of soil for the vines to grow in. Such, however, is not the case; as the vines that were planted by Mr. JOHN SHERWOOD, when he occupied the Laurel Hill horticultural establishment, near Philadelphia, still produce abundant and beautiful crops, second to none that are grown in the vicinity of that city. These vines have been planted about *ten years*, inside the house, in a border raised above the surface,—being boxed up to within a foot or eighteen inches of the glass. The depth of the soil about three feet, and the width of the border three feet and a half; no dead carcasses or other offensive matter was used in its construction.

Vines that are planted at Mrs. CAMAC's residence, near Philadelphia, which had expensive diffused borders made, and by a good practical gardener, had large quantities of horses and other carcasses, slaughterhouse manure, &c., incorporated with the soil, certainly does not prove that putrid carrion is the most suitable manure to incorporate with vine borders, although they are under the *able superintendence* of Mr. ALEXANDER CAIE. The same may be said of the vineries at Andalusia, the seat of the late NICHOLAS BIDDLE, Esq., where vines are cultivated under glass, to a greater extent than any other place in the Union. It will be found that as good grapes can be produced without the use of dead carcasses as with them. The wood will be shorter jointed, better ripened, and, consequently, more firm (without the use of dead bodies,) as I have had ocular demonstration of the above fact; and it frequently fell under my observation when I resided at Andalusia. The use of animal manure is apt to unduly excite the vines; and it will always be productive of long jointed, badly ripened wood, where there has been a superabundance of animal manure used. Consequently, this soft, spungy wood is not at all calculated to produce a fine crop of fruit. In my opinion, if animal manure is used at all, it ought to be thoroughly decomposed before it is incorporated with the border.

The Excavation.—In forming borders, it will be necessary to excavate the soil to the width of ten feet, the length of the house, and to the depth of three feet and a half. On all occasions the borders are to be located *outside the house*, when *cold vineries are intended to be erected*, and also for houses that are not forced previous to the beginning of March. The soil excavated to the required depth, width, &c., a four-inch wall should be built in the front and ends, so as to confine the roots to their *legitimate* space, which will be found amply sufficient to furnish a rafter thirty feet long with prolific vines. The bottom of the border should be neatly paved, and have a slight inclinarion to the front, where a drain should run the entire length of the border, to collect and discharge any superfluous moisture at the nearest convenient place. In houses that are designed for early forcing, and commencing in the first week of November, I should recommend that the border be raised, and run parallel with the back wall; the advantages of which will be noticed hereafter.

Drainage.—If the location of the vine border be on a heavy retentive soil, and in

a situation naturally wet, great care must be taken to have it thoroughly drained; for upon perfect drainage depends your future success. No matter how judicious your treatment in the house is, if the *roots* are not in a vigorous and healthy condition, no satisfactory result can be obtained. Should the subsoil be a dry, gravelly bottom, less drainage will be required; and no situation so well suits the vine, as that which is thus drained by nature. I would recommend, in very low, wet situations, to adopt the same system of drainage as is practiced at Stradsett Park, Welbeck, and Alton Towers, and many other places in England, viz., *to chamber the border;* which may be accomplished by running nine-inch walls across the border, one foot high, and covering them with good flag stones, such as are used in paving streets; the larger they can be obtained the better. They should not be placed so close together as to prevent the superfluous moisture passing off into the bottom of the chamber. Ten or twelve inches of oyster shells should be placed on the top of the flag stones, previous to the earth being placed upon it. [A foot of loose small stones will answer just as well as this chamber.—Ed.] A drain should run along the bottom of the chamber at the front, and be conducted to the most convenient place to discharge any water that may settle there.

In borders that do not require to be chambered, one foot of oyster shells should be placed upon the *paved bottom.* The object of *paving the bottom*, is to prevent the roots penetrating deeper than the bottom of the border, whereby they will be freed from the "contaminating influence of a bad subsoil." In no case should the border be elevated above the surface more than two or three inches.

Vineries that are to produce ripe fruit in March and April.—In houses of this description, where forcing commences in November and December, it will be desirable that a wall be built, three or four feet from the back wall of the house, and run parallel with it, to the height of three feet six inches. The bottom of this should also be *paved*, and have an inclination towards the front. A brick should be left out at the distance of three feet apart in the first course of the wall. For drainage, oyster shells, *if obtainable*, to the depth of twelve inches, should be placed at the bottom; and whenever this border is watered, either with pure water or liquid manure, it should be thoroughly *saturated*, so that a copious discharge should run from the bottom. The advantage of these small borders over large diffused borders, in early forcing, is that the border, being elevated, attains nearly to the temperature of the house; and being in close proximity to the glass, has the advantage of the sun's rays upon the surface of the border, which is a desideratum devoutly to be wished for, as the electrical rays of the sun-light are of the highest importance to the well being of the vines. Lastly, being planted at the back of the house, and the vines being trained downwards, under the rafters, it will have the effect to induce them to develop every eye in the vine, which will be found to be of the utmost importance to the cultivator, especially in *early vineries.* Houses that I recommended in my article, on "Culture of Vines in Pots," will be admirably adapted for the purpose of early forcing. It is the system of the late Patrick Flannigan, who introduced it to notice some thirty years since. Vineries that he then planted are yet in fine order, and carrying splendid crops of fruit to this day; thus showing the capabilities of these small borders, when judiciously managed.

Soil.—The soil that I have found most suitable for vine culture, is the following: The top spit of an old pasture, of medium texture, to be pared not more than three inches in depth, and containing the greatest quantity of *turfy fibre* possible; well decomposed black, or *bog earth*, that has been well pulverised with the action of a winter's frost, and summer's sun, and frequently turned; well rotted horse manure—that from an old hot-bed is most suitable; *coarse ground bones;* gypsum, or sulphate of lime; dried night soil, or poudrette; and oyster shells, to render the border always *open* and *porous;* woolen rags, and scraps of leather. In a border that I saw made, at Whittlebury Lodge, Northamptonshire, England, the seat of Lord SOUTHAMPTON, fourteen years ago, which was made in an early vinery, the produce of which, up to the present time, has been the admiration of all who are fortunate enough to see the grapes in a ripe state, the following is the quantity of ingredients that was used,—the border containing fifty cart loads of soil: Turfy loam, 25 loads; rotten hot-bed manure, 5 do.; coarse ground bones, 50 bushels; bog earth, 5 loads; dried night soil, or *poudrette*, 50 bushels; 2 loads oyster shells; 8 loads woolen rags and leather scraps; 50 bushels of sulphate of lime, or gypsum. The whole was then incorporated, with the exception of the rags and scraps of leather, which were put in the border in *thin layers.* The result of this combination far surpassed the expectations of Mr. SOUTH, the gardener; and any cultivator using the same materials as pointed out, may, with judicious management in the house, realise a crop of grapes inferior to none.

Mulching.—This is an important operation in this climate, and is greatly neglected, in late graperies especially; and upon this operation depends, not a little, the swelling of the fruit. Nothing can be more injudicious than to see a vine border, especially where late grapes are grown, elevated two or three feet above the surface, and having a considerable inclination to the south, finely raked over, and the fiery rays of a summer's sun evaporating every particle of *moisture* within its influence, to the depth of 15 or 18 inches,—the very place where all the fine rootlets and active feeders of the vine ought to be located. But under such circumstances, they are unable to exist there; it being absolutely nothing else but dry dust. Should rain happen to fall copiously, such borders are very little benefitted, as it runs off with nearly the same facility as water off a duck's back. When borders are properly mulched, no inconvenience will be experienced from *drouth.* As soon as there is an indication of a dry spell of weather setting in, the border should be immediately mulched; and if there has been a good day's rain previous to the operation, so much the better. In mulching vine borders, good half decayed leaves, or fresh cow manure, to the depth of eight or ten inches, will be found very efficient. As soon as the *extreme heat of summer* has passed, say early in October, it may be taken off roughly, and what remains may be forked into the border. The usual time for applying the leaves, &c., to the border, is from the middle to the end of May. Of course, this depends in a great measure on the season.

In Mr. CLEVELAND's article on vine borders, I see he ascribes the superiority of his grapes the past season to having used tan, as a stimulant for the vines. This, however, I think is erroneous; and with all due respect for him as a cultivator, I beg to say that, in my opinion, it can be traced

to the tan, acting as a protection to the young fibres and roots, being protected against the intense heat of the sun, and preserving the border in an equable state of moisture all the time, encouraging the rootlets to the surface, so that they had the benefit of atmospheric influence, without sustaining the least injury: [in this we quite agree.—Ed.] I will give you the routine of my practice in the cold vinery, should you deem it worthy of a place in the Horticulturist, the first opportunity. I remain yours truly, James Stewart.

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[Mr. Stewart's materials for composing the border are good, and we agree with him respecting the size of the border, *when inside the house*, for forcing. But we believe the mass of experience will be found against him in this country, as regards small outside borders for cold vineries. Perhaps our correspondents will have a word to say on this subject. Ed.]

ON TREES AND SHRUBS NEWLY PLANTED.

BY D. BEATON.*

Now [last of Feb., Ed.,] is a good time to look over the flower garden and shrubberies to see what can be done for young trees and shrubs, that have not thriven since they were planted, and for older ones that once promised to reward us for our careful attention, but which from some cause or other are not looking so well as they ought to do. There need be little fear about such plants as were removed late last spring, being yet in no very promising mood, as few seasons within my memory have been so ill suited for young things newly planted. They experienced extremes of cold and dry heat before their roots could take much hold of the soil, so that many of them lost their leaves, and are still looking far from being healthy; their roots, however, must have made great progress since last August, for we never had a better autumn, and, I was going to say, or a longer, one for planting and for lately planted things; so that, with judicious pruning this winter, we may reasonably calculate on a fine vigorous growth next season. All plants that are much stunted from a recent transplanting ought to be pruned very close before they begin to grow next spring, for of all the hopeless things in this world to expect that a free circulation of sap can run through a stunted hide-bound shoot is the most hopeless, and we have no means of remedying this but by close pruning, and in future to be wiser, and get our pruning and planting finished before the winter sets in, so that the roots may be in action in the spring as early as the leaves. It is not too much to say, that in our climate every tree and bush, every climber and twiner, with all trailers and creepers, and the whole race of evergreens, ought to be planted at the end of the autumn; and not only that, but all the pruning that is necessary, to bring the head of the plant within a compass corresponding to the strength of the mutilated roots, should be effected a full month previously to the removal of the plant, and *not at planting time*, as is generally done; unless indeed you are planting from a nursery, when of course the plants will not be pruned till you get them home. If I made up my mind to plant a certain evergreen tree or bush on the 20th of September, I would cut off all the branches, or part of the branches, that I thought necessary to be removed, as early as the middle of August; and if, during the interval, some of those branches that were headed made a fresh attempt at making another growth, I should like it all the better, as showing that the whole plant was so full of blood that the sap must either break the bark, or find a vent in an unseasonable growth at the tops of the main branches; and before this could take place, every bud on the tree, and every cell that

* From the Cottage Gardener, London.

composes it, must needs be as full of the rising juices as a newly laid egg.

Now, there cannot be two opinions amongst practical men about this being the very best state for a tree to be in at the moment the fork and pick are laid to its roots for removal. We may differ as to the best month for removing large plants, but we are all agreed—at least I hope so—on the point, that every bud on the transplanted tree ought to be in the best possible means for a start next growing season; and it is not too much to say, that, those buds left when a tree is pruned and planted the same day, are just in the very worst to renew their growth, because they are then, like all the rest of the lower buds on the tree, much less charged with sap than those situated towards the top of the branches, so that the most prominent buds must of necessity be removed in the process of pruning.

Not many years back, there was a widespread controversy as to the merits of pruning at the time of removing trees and shrubs; one order of practitioners maintaining that not a twig nor a leaf should be removed from a transplanted tree, because, as they affirmed, the more leaves a tree possessed the more capable it must be of renewing its roots; and this idea took such a firm hold of the rising generation of gardeners that to this day many of them believe that the more leaves a cutting has the sooner it must root. Many of the older members of our ancient craft scouted this idea altogether, but still they were much in the minority, and at last were well nigh outvoted altogether. At this critical point, Dr. Lindley's Theory of Horticulture was announced, and now, it was thought, "murder will out," and each party concluded that if the Doctor had any brains at all he must side with their view of the pruning question; at last the book appeared, and a most valuable and useful book it was, is now, and will be for the next two or three generations. A quotation from *Hale's Vegetable Statistics*, on the title page, was most ominous to the leaders on either side of the controversy. It runs thus—"Though I am very sensible that it is from long experience, chiefly, that we are to expect the most certain rules of practice, yet it is, withal, to be remembered that the likeliest method to enable us to make the most judicious observations, and to put us upon the most probable means of improving any art, is to get the best insight we can into the nature and properties of those things which we are desirous to cultivate and improve." This only strengthened the views of both parties still more firmly, as also did the following remarks by the author in the beginning of his preface: "It is, I confess, surprising to me, that the real nature of the vital actions" (the living principle) "of plants, and of the external forces by which their are regulated, should be so frequently misapprehended even among writers upon horticulture; and that ideas relating to such matters, so very incorrect as we frequently find them to be, should obtain among intelligent men in the present state of what I may be permitted to call horticultural physiology." But the strangest part of the story is yet to be told. The Doctor proved by his "Theory" that both parties were quite right, and they had no occasion to make any fuss on a matter so really simple. The drift of his explanations may be summed thus:—If you remove a tree without much hurting its roots, you will have no reason to prune away any of the branches; for the more leaves it has, the sooner it will renew any of the roots that may have received any slight injury. On the contrary, if a tree is taken up badly, or, which is the same thing, if its roots are so situated that you cannot possibly get them all out without cutting part of them, then some pruning is necessary, because the large surface of leaves would empty the tree of its juices by perspiration faster than the roots in their crippled state would supply them. Now, any one well versed in the subject, and knowing the heartburnings which the question caused at the time, must see clearly enough that the author here weakened his own authority in thus striving to please both parties, or, at any rate, his anxiety not to displease either. A commendable policy with our intercourse with the world, but the last on which an independent mind should lean when dealing on the truths of science. The real state of the question stands thus, and we cannot gainsay it:—No man, or set set of men, ever lived, or ever shall live, accord-

ing to the present constitution of things, who could, or can, transplant a large tree without injuring its roots, and that very materially, and it is a mistake which almost all of us fall into to suppose that the power of the leaves for good is according to their number. Ten strong powerful leaves in a healthy vigorous state will do more good than five times the number in a languid state, as they are often seen to be the first year or two after a tree is removed. Therefore, the great aim of the planter should be to prepare his trees before their removal, so that whatever the number of the leaves may be in the following season, every one of them should be in a flourishing condition; for unless they are so, it is needless to look for a speedy restoration of the roots or branches. All ornamental trees and shrubs, particularly the latter, will require a little pruning, more or less, every season; but when the subject has been well attended to for years, all that will be needed can be easily done in summer during the growing season. When a tree or bush begins to get naked below, it is a sure sign that it ought to have been pruned long since, or that the situation is too crowded for it; for nakedness produced by starvation or old age always begins at the top of the plant. How plants become naked at the bottom is this: the first two or three tiers of the lower branches get overtopped by some of those immediately above them, and these, by throwing off the rain and obstructing the sun from them, soon cause them to dwindle away by degrees until they die outright, and leave a naked void. This is the most common case of bad management, and it often results from a mischievous doctrine which has taken hold of some people's brains, and which they never cease pushing at you right and left. In the park and forest, it is all very well to see plants growing in their own way, and a naturalist may go and enjoy them there until his toes get frost-bitten; but within the boundary of the garden every plant ought to be attended to as carefully as if it were grown in a pot for a London exhibition; staked, trained, and pruned as regularly as a Geranium. But having occupied so much with these general remarks, I must put off the subject of pruning to another day; and meantime, any tree or shrub, or climber, which looks stunted, or in an impoverished state, ought to be examined at the roots, beginning by making a trench outside of the roots, as our editor advised to take up the Magnolia, at page 14; and after freeing the tops of the roots a little, and all the way round, shovel out all the poor soil, and fill the trench with a good compost of fresh soil and some rotten dung. If the plant is on the grass, put a layer of the bad soil under the turf before you replace it.

D. Beaton.

ROUGH NOTES ON HORTICULTURE, FROM THE WEST.

BY DR. J. A. KENNICOTT, OF THE GROVE, ILLINOIS.

A. J. Downing—*Dear Sir:* I have not only your general permission, but your direct encouragement, to furnish for your pages—"short notes, adapted to western readers," suggested by the text of the Horticulturist. For this roving license, I am truly thankful. It is a great pleasure for me to write on rural subjects; especially, as in this instance, where the thoughts are in the text before me. This pleasure I enjoy, perhaps, like most inveterate gossips, at the expense of others. But of this, my readers are the best judges.

The science of horticulture, west of the state of Ohio, is in its infancy,—but a strong and promising infancy. "The young giant of the west," indeed grows apace; and though, as friend Wight says, his bony legs and brawny arms protrude from the sleeves of his coarse jacket, and the

bottoms of his trowsers, in rather a disproportionate and unpicturesque manner, still, there is muscular power there, and energy, and shrewdness, in the brain that surmounts the uncouth structure.

There is, perhaps, no better evidence of what we are doing, and intend to do, as horticulturists, than the fact that we have more nurseries in number, north of the capitol of our state, than you have west of yours, to the same area. This county—which is 16 or 18 years old, at most—contains within its bounds not less than 50 nurseries; all more or less respectable, and some quite as extensive as most eastern ones.

But to my "text." Your leader for January, on removing large forest trees, is peculiarly applicable to our prairie country. We have many desirable situations in the midst of our extensive prairies, where the configuration of the land, rising into comparatively bold and graceful swells, is well calculated to show off clumps of large trees to admirable advantage, and in pleasing contrast with the general nakedness, and monotony of the landscape.

In the city of Chicago, much has been done in this way; and with a few more such men as Wm. B. Ogden, Henry Hubbard, and Dr. Egan, with our excellent *Prairie Farmer* to back them, Chicago will soon earn a just title to her arrogant synonym of "The Garden City." But hitherto few trees of large size have been successfully removed,—the integrity of the roots not being sufficiently preserved; yet of medium, and small sizes, a vast number of native forest trees now embellish the streets and lawns of our city. Still, it must be confessed, that perhaps a greater number have miserably perished, by being "set in the ground like posts." The principal trees in use, have heretofore been the elm, hard and soft maples, cotton-wood (*Populus angulata*,) and the universal locust. Very recently, a taste for our beautiful and hardy native *Coniferæ* has been gaining ground in Chicago, and the west generally. Of these, we have millions, of suitable sizes, along the borders of the whole lake region. But, among these ever smiling objects, my particular favorite, the *hemlock*, is proscribed. I, however, reside in the country, and hold country notions.

And what can I say of arboriculture in the country? Alas! the picture so vividly drawn by your critic, Jeffreys, is too near the truth. All here lies in its primitive nakedness; or stares, from the works of man, in scarred and blighted ugliness, a thousand times more desolate than the land as God made, and "the savage" left it.

When I settled at "The Grove," some 14 years since, there was, along the course of the Milwaukie road for many miles, some of the finest natural park scenery, principally burr oaks, [Overcup oaks,—*Quercus macrocarpa*—Ed.] with low spreading heads, that I have ever seen in any country. The exceeding beauty of these scattered trees, gracefully dotting the verge of the prairie, on the west side of the river, where trees are seldom found, and the bold outline of "heavy timber" on its eastern shore, with the lovely chain of blue islands, obscurely visible in the western horizon, rendered the whole landscape most truly delicious, and was the principal inducement to my remaining here. And now—these noble trees, that the swift fires of ages had spared—where are they? Ask Jeffreys; he has told you, and in language that really seems as though, in some moment of forgotten inspiration, or during a fit of somnambulism, I had myself uttered his eloquent and truthful senti-

ments; so natural and familiar do his thoughts appear. God send us more such MEN. And perhaps my years, and my western education, may plead my excuse for congratulating the readers of the Horticulturist on the acquisition of such a thinker, and such a writer, as JEFFREYS. To his whole January article, to all he has written, I can but say, with the editor, "most excellent and sensible."

"*A Note on the Curculio.*"—We are sadly troubled by this "little Turk" here in the west. We hear everywhere groves of the native plum, where he has luxuriated time immemorial. At first I thought, and so wrote, that in the prairie, removed from the wild plum groves, there was little to be feared from his ravages. I so judged, because my trees nearest the grove, were invariably the greatest sufferers from the curculio; and in shaking for them, we would often take ten insects from a tree 8 rods from a copse of wild ones, to *one* from trees 40 rods removed. But I have lost faith in this sort of exemption. Last June, I saw a fine young plum orchard in the prairie, quite remote from timber, bearing for the first time; and every "set" bore one or more of the "crescent marks" of the destroyer. I have nothing new to add on the subject of this pest, except evidence of a fact, sometimes doubted, that though not inclined to travel, the curculio is not necessarily bound to one spot of earth. Would that he were; and that spot elsewhere than in Illinois, where I much fear, even with the aid of hogs, he will finally interrupt the cultivation of plums, apricots and nectarines.

"*Memoirs of John Bartram,*" *&c.*—There is *one* such man as JOHN BARTRAM now living. See his portrait faithfully sketched in an address, delivered in September last before the New-Haven County Horticultural Society, by S. B. PARSONS. Would that we had more such men. Would that we had *one* such in the west, to encourage us by his example, and aid us by his liberality.

"*Domestic Notices.*"—Thank *you*, Mr. Editor, for endorsing my notions with regard to *stoves*. This same prairie state is the land of stoves; and we have as many patterns as can be found in the Patent Office. I hate the whole breed of them, though, doubtless, like *pork*, they are useful, and perhaps necessary in cooking. But even here, I have a strange hankering for the old "trammel" and hooks. And I own, that I have liberally indemnified myself for the introduction of stoves elsewhere, by building a real old-fashioned, capacious, family fire-place in my original "log cabin," which I love like an old friend, and—sooth to say—have "embalmed," by surrounding it with other buildings, verandas, &c., besides a dense grove of trees, to "hide the nakedness of the land." And let me assure you, that in this primitive sitting-room, with a rousing fire of dry hickory logs, there is much comfort; and with the free air constantly sifting through the "chinking," there is more than comfort; there is pure food for the lungs, and plenty of it; and there is *health*, and almost entire exemption from "colds," and "croups," and "quinzies," and "all the long catalogue of ills" that infant "flesh is heir to," in the air-tight rooms, heated by "air-tight stoves" of our city residences.

"*Report of the Congress of Fruit-growers.*"—It would seem that the Report of the "convention," at Syracuse, is full as tardy in making its appearance, which I much regret, though to my certain knowledge all of the "copy," and most of the money collected, were in the hands of the printer during September. A short time since, one of the secretaries of the "con-

vention"—F. R. Elliott—wrote me that the reports were printed, but from some unexplained cause, had not yet reached him for distribution.

Long ere you receive this, you will have seen notices of the liberal doings of the Cincinnati Horticultural Society, and the Ohio State Board of Agriculture, with regard to the next Congress. And it gives me great pleasure to be able to inform you, that I have enthusiastic assurances from many nurserymen and fruit-growers of the west, of their intention to be in attendance at Cincinnati, with "heaps" of apples, and "a right smart chance" of other fruits. God willing, I shall be there to enjoy the treat, and may hope to make a creditable display from "The Grove," considering that our trees are only from three to nine years from the nursery. But, what I wish more particularly to urge upon the immediate consideration of the pomologists of the whole west, is the necessity of availing ourselves, for our own credit's sake, as well as the advancement of our noble science, of the opportunity which the courtesy of eastern horticulturists has accorded to our wishes, of being the first to issue *a volume of the Transactions of the National Pomological Congress.*

We *can* do this, my friends. I know fifty persons in the west, capable of making valuable and reliable reports. And the east, believe me, will not frown on our efforts; but, with their far greater knowledge, and experience, and facilities, will aid and encourage us, and welcome the "first fruits" of the education they have given to their children in the west.

The Grove, Illinois, January, 1850.

THE USES OF CHARCOAL.

BY CHARLES ROBINSON, HEW-HAVEN.

In preparing some stimulating, or rather nutritive fluid for watering my green-house plants this winter, I used, among other things, a small quantity of "fish guano;" an excellent preparation, made in this vicinity from the residuum of White fish, after the oil has been principally expressed for manufacturing purposes.

I made the preparation in a close cask, and it was so strongly impregnated with the peculiar odor, so rife in the summer season near the sea shore, that I could not introduce it into my house. Indeed, when the lid was raised, "*stand back*," was decidedly the order of the day.

To obviate this difficulty, I threw into the mixture (of sand six pails full) about two quarts of charcoal dust. The effect was truly wonderful. The fluid soon became entirely inodorous.

Following out the suggestion, I put some finely pulverized charcoal into a cask containing rain water for use in my furnace, which, during the winter, had acquired an unpleasant smell, and with as gratifying a result.

My cistern, holding some fifteen hogsheads, is filled from the roof of my house, standing near a street much frequented, although regularly watered during the summer season. Whether the difficulty has arisen from the dust from the street, or from the fact that a grapevine overhangs a part of the roof, or because the cistern is closely covered, the water has nearly all the time had a slight unpleasant smell. Last summer the difficulty became so great

that I was compelled to have the cistern emptied and thoroughly scoured. This winter the trouble has been greater than usual; so great as to drive me to the unwelcome conclusion, that my cistern must be again broken up, emptied and cleaned.

Such was the condition of things when I made the experiment above described; and I very naturally went a step farther. Taking about 6 qts. of clean charcoal, finely powdered, I wet it thoroughly in a pail, and then poured it through the water pipe into my cistern.

In ten days the whole difficulty was removed. Indeed, the water became as clear, pure, sweet and soft as the purest which falls from the sky.

If this remedy shall prove as permanent and effectual as it now promises to be, it will add greatly to the comfort of my family, and I doubt not will be as acceptable and useful to many readers of your instructive and valuable journal.

CHARLES ROBINSON.

New-Haven, Ct., March 7, 1850.

ON THE BEAUTY OF OUR INDIGENOUS PLANTS.

BY DR. COMSTOCK, HARTFORD, CT.

A. J. DOWNING, ESQ.—*Sir:* The following list of native plants are growing in my garden. With the exception of Trillium grandifolium and Dodecatheon, they are all natives of Connecticut, and most of them of Hartford county.

Many of them have been taken from the woods or swamps by my own hands; and in general I have been highly pleased to observe, that the wildest among them grew much better in the civilized, than in the barbarous state where they were found. Many, indeed, have so improved in size and beauty that their old friends who knew them or their families, perfectly well in the woods, are at a loss to know who and what they are in their present condition.

I am among those, Mr. Editor, who prefer our own to foreign plants, of the same grade of beauty, though the former are neither puffed among dealers, nor esteemed by those who lead the fashion in the floral world. I prefer them because they are natives of our own soil, and will therefore grow with little trouble, and with no protection. Perhaps, also, there is a mixture of national pride in the consideration that our woods, swamps and barrens afford as beautiful specimens of the gifts of Flora, as can be brought from any other country. I think, indeed, that we have many native plants, unknown to most of our lovers of flowers, which are on all accounts far preferable to those for which high prices are paid, because they come from distant lands. I know that some of my own have been honored with screams of delight from pretty lips; the owners of which were not only astonished, but mortified at their own ignorance, when they learned that such beauties came from our own woods, and that, too, within a few miles from the place where they now grow.

Perhaps my taste is either antiquated, perverted, or peculiar. It may be a mixture of all these. At any rate, I cannot see, for instance, why our Lilium superbum, with its 30 or 40 flowers, elevated 6 or 8 feet, is not a far more splendid flower than the famous Japan lily, with its low stature, and two or three flowers. And yet, although the latter has been in the country only a

few years, and sells at a high price, while the former has been growing among us ever since the creation, the one has been seen and bought by hundreds who perhaps never even heard the name of the other. Nor is this by any means a solitary case; for where shall we find, among hardy perpetuals or annuals, of any country, more beautiful plants than the *Asclepias tuberosa*, *Cypripedium spectabile*, the *Habenaria grandiflora*, or the *Lobelia cardinalis;* and yet, in how few gardens are any of these to be seen.

In foreign countries, these, and scores of other American flowers, of which cultivators in this country hardly know the names, are esteemed as among the choicest beauties of the garden.

I am aware that whatever is common and easily obtained, is generally esteemed of little beauty or value; and yet I have no doubt, that were the beauties of our fields more generally known and cultivated, they would rise in fashionable esteem, not only on their own account, but because they are the products of our own country; for certainly, we indulge feelings of natural pride on subjects far less worthy than the floral gifts of our woods and barrens.

In addition to the pleasure which every one feels in watching the growth and flowering of plants, which he has redeemed from the woods, there are several other considerations by which the value of such specimens is enhanced. One is, the amusement to be derived at the perplexity of certain persons, (who professed to have all the floral beauties in market,) at beholding, for the first time, such splendid flowers as the Fringed Orchis—(*Habernaria ciliata,*) or the Painted Moccasin flower—(*Cypripedium spectabile;*) and especially on being told that they came from our own swamps.

The list of which I spoke at first, of indigenous plants, from the woods, swamps and barrens, which I have collected and value highly, is a follows:

Acorus calamus,
Acer striatum,
—— montanum,
Aristolochia sipho,
Apocynum cannabium,
Aquilegia canadensis,
Actæa rubra,
—— alba,
Asclepias tuberosa,
—— phytolaccoides,
Arbutus uva ursi,
Aster spectabalis,
—— laevis,
Asarum canadensis,
Coptis trifolia,
Caltha palustris,
Cornus florida,
—— canadensis,
Clematis virginica,
Convallaria racemosa,
Clethra alnifolia,
Ceanothus americana,
Cypripedium acaule,
—— flava,
—— spectabalis,
Dirca palustris,
Diascoria villosa,
Epilobium spicatum,
Equisetum hyemale,
Gentiana saponaria,
Gerardia flava,
—— pedicularis,
Hamamelis virginica,
Habenaria grandiflora,
Hepatica triloba,
Kalmia latifolia,
—— angustifolia,
Lilium canadense,
—— philadelphicum,
Lysamachia quadrifolia,
Lysamachia ciliata,
Ludwegia alternifolia,
Lobelia cardinalis,
Liatris scariosa,
Leptandria virginica,
Lygodium palmatum,
Mimulus ringens,
Myrica cerifira,
Neottia pubescens,
Nymphæa odorata,
Osmunda vegalis,
Prinos verticillatus,
Pyrola rotundifolia,
—— maculata,
Prenanthus alba,
Phodora canadensis,
Pyrus arbutifolia,
Rhododendron viscosa,
—— nudifolia,
Salix conifera,
Staphylea trifolia,
Spirea alba,
Sarracenia purpura,
Sagitoria sagittifolia,
Solidago odora,
Typha latifolia,
Thalictrum dioicum,
—— corynellum,
Triosteum perfoliatum,
Trillium grandiflorum,
Tephrosia virginica,
Verbascum blatteria,
Viola pedata,
—— rotundifolia,
Viburnum acerifolium,
—— dentatum,
Vicia cracca,
Dodecatheon media,
—— purple,
—— white.

Another gratification, especially to the botanist, is, that he can now see, from day to day, what changes take place in plants which he has only seen, perhaps, when in full flower in the woods. He can witness the changes in size and beauty which cultivation often produces. In this respect, he will sometimes notice curious and interesting facts, of which he must have remained ignorant, or which would not have occurred, had the plants not been taken from their native soil. Thus the *Equisetum hyemale*, after rising above the ground, increases, not in diameter, but only in height. The *Salix conifera*, when cultivated, no longer produces its characteristic cones, &c. Yours truly, J. L. Comstock.

Hartford, March 5, 1850.

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Remarks.—There is a great deal of good sense as well as patriotism in Dr. Comstock's remarks. They contain another il-

justration of the truth—that we overlook what is within our reach, and take infinite pains to get that which is to be had with difficulty; that two of the finest evergreen shrubs in America, the common laurel—(*Kalmia latifolia*,) and the native holly—(*Ilex opaca*,) are scarcely to be found for sale in a nursery, or growing in a shrubbery, in the United States, though in England they are planted by the acre, and plants of the Kalmia may be had for a few shillings a thousand. Ed.

CRITIQUE ON THE FEBRUARY HORTICULTURIST.

BY JEFFREYS, NEW-YORK.

Your Leader—*The Convention of Fruits.*—Very well. The fruits themselves having taken the subject in hand, I trust the desired reform of *anglicising* their foreign names will go forward. I know no better reason for retaining *proper* names and pronunciations to foreign *fruits* in foreign languages, than to foreign cattle or horses, or any other thing. It is an absurdity all round. We talk, or profess to talk, English in this country. Why then strive to draw foreign languages in so awkwardly, to bother our tongues and brains, when the "old well of English undefiled," is at hand, sufficient for all our purposes? I hope that this important matter will be put right at the next annual pomological convention.

Preserving Fruits fresh for winter use.—A most excellent plan, and as easy in practice as to bottle cider. A little attention at the proper seasons to things of this sort, and what a multitude of household comforts do we draw about us, costing to those who grow the fruits little or nothing, and a source of profit to those who wish to make them so.

A Botanical Account of California.—I trust that California is destined to produce something *better* than gold. If not, it must be a wretched country. But until gold gets to be an old story, I suppose we shall hear little of anything else. For the last twelve months, I have been inquiring what California produced in the way of vegetation, but can find no one who thought of, or saw anything but gold when there.

It is said that Col. Fremont's glowing pictures of the luxury of vegetation there is all moonshine. If, however, California shall prove a good agricultural region, no occupation for the next twenty years will prove so surely profitable as that of cultivating the soil in grains, vegetables and fruits. More gold can thus be *dug* out of the soil than in the richest *placers* yet discovered.

Notes on Fruit Culture in Illinois.—A very interesting paper; and if the Catarobe grape, so graphically described by Professor Turner, is a native of that country, it is substantial evidence that his chief difficulty in his other fruits is, that they are foreigners to that particular soil and locality. His narrative of the *root* grafted, *stock* grafted, and stock *budded* apples, is another strong evidence of such fact. I would suggest to Professor T. to try *native* Illinois stocks, grafted or budded high, i. e., at the point where he proposes to spread the top of his trees. The *main stock*, where the chief complaint now lies, will then be indigenous to the soil, and altogether likely to withstand the vicissitudes of climate and soil, which are so fatal to the exotics. At

all events, the difficulties complained of will be overcome after a while. The case is not desperate, by any means.

A few words about sickly Pear Trees.—The man who has a dozen pear trees can very well wisp them up with straw; but he who has five hundred or a thousand to do, will find it an expensive matter, besides coaxing the mice and other vermin into the bark and about the roots by its continual falling off; for I have known mice girdle trees as fast in summer and autumn, as in winter. As just mentioned, with regard to Professor TURNER, work the trees high up to the branching point, and let the stocks be the hardiest and thorniest seedlings. The top will thus shade itself, and be its own preserver. Who ever knew a natural hedge-grown pear to be sun-struck, or diseased by any *natural* cause?

I fancy that the chief cause of our troubles, in the finer kinds of the pear, is the practice of our nurserymen to work their buds into any kind of the same stock where they would grow, irrespective of its fitness, producing the same bad results that excessive "in-and-in breeding" among cattle has often done with our stock farmers. The Endicott and Stuyvesant, named by "Digger," as well as the original Tyson and Seckel trees, prove this; and the enormous French seedling pear trees on both sides of the Detroit river, quite two hundred years old, and some of them yet in vigorous bearing, would appear to settle the question.

In VAN MONS' account of his cultivation of the pear, to seek out his celebrated new varieties, it appears that he selected the seeds of the best pears for planting, and then selected the seeds of the best and most delicate fruits produced by *them*, and so on, in succession,—thus enfeebling and refining them in constitution, (for why not a tree have constitutional enfeeblement as well as a calf or a sheep?) as he progressed, until the very last limit of vitality was attained, and which was in fact an inevitable necessity, to produce the exquisitely refined fruits that he did produce. Now, beyond all question, if he had at every successive planting of the seed used only the seeds of hedge-pears, or *wildings*, he never would have succeeded in producing a tenth or a fiftieth part of the *good* pears which he did; but it is quite probable his *stocks* would have been infinitely more hardy and enduring. And the fact that our best *native* American pears have been from *chance* seedlings, of vigorous growth, but in all probability of legitimate admixture from the pollen of good varieties, no way controverts this supposition; only we have as yet discovered, among all our chance wildings, but a very few *first rate* fruits. I shall be happy to hear the views of "Digger" on this subject.

Design for a Southern Country House.—A very good one, and in excellent character for its locality. But, my good sir, I should have the roof steeper—"a quarter pitch"—at least. Such a roof, of shingles, (and that is what they use at the south,) will last twenty to forty years, depending on the material, and look quite as well, while the flatter one—say one-sixth to one-fifth pitch—as you have it, will only last one-third to one-half the time. For a *southern* house, too, I would throw the chimneys into the outside walls; as the additional heat they would otherwise give to the rooms is of little consequence, and thus give more space to the interior, and look quite as well in the general effect. I hope that in your proposed work on "Country Houses," you will pay more attention to *southern* architecture; for in no part of the United States has so little study been given to rural embellishment of houses as there. And how

much of picturesque effect, too, would be added by an improved style of building on plantations, where the chief mansion is ornamented and "set off" by the numerous cottages of the laborers, which may be grouped into an infinite variety of expression! Dear me! If people would only consider how wonderfully a little good taste in arrangement would add to the value, in reality as well as in appearance, of their estates, by the location and style of their buildings, how much would their attachment to them be enhanced! Americans, instead of the most negligent, should be the most conspicuous in their rural architecture of any people in the world; because owning the fee, they build for themselves.

The Manetti Rose Stock.—If this be what Mr. RIVERS says of it, why is it not just the thing for lawn hedges in this country? The Privet, intermixed with the wild Michigan rose, is now the prettiest thing we have for a *northern* climate. But the Michigan will not grow from the *layer* as the Manetti does; nor does it incline to sucker profusely, although it is the most rampant of growers. The Manetti appears to be already introduced into the United States; and if as easily propagated as described, it will soon be abundant in our gardens. Let it be tried, by all means, and see what it amounts to.

The Critic Criticised.—Well, "I'm in for it," to a dead certainty. Mr. DAVIS is an architect; of course, an *exact* man—mathematically so. And he says that my "censure" of Mr. ROTCH's villa is based on "superficial examination." Be it so. I'll tell him a story, which I saw the other day in a newspaper. A clergyman in Lowell was publicly accused of going with his *wife* to the "protracted meetings" in that famous city, and making light of the penitential acts of those who participated in the evening exercises. He thus answered the accusation, as publicly as he was charged:

"I have never accompanied my wife to any of the protracted meetings.

"My wife has never attended one of those meetings, nor made light of their proceedings.

"I never have attended one myself.

"I have no wife!"

Now for the application:

MR. DAVIS.	CRITIQUE.
"The roof of the *main body of the building* is pronounced (by critic) too high, and would be made subordinate, and an 'inferior appendage!' The whole character of design, composition, and harmonious arrangement, lies in making *this* feature *dominant*, rather than subordinate." [The "Shakspeare" part I have no use for.—*Critic.*]	"The roof of the *front porch* is also too high, running its point far above the pinnacle of the *house itself*,—thus making it (the porch) the superior, instead of the inferior appendage; the latter, its proper character."

I fancy it will be hard to find where my opinion differs from his own in *reality*, although he quotes me exactly the reverse, and may be quite as "superficial" in his readings as myself. Had Mr. D. drawn an end elevation to the house, and *shown* what he calls the gables, I should not have been betrayed into the supposition that they were "dormer" windows, which, notwithstanding they prove "gables," look more like "dormers," in the picture, than anything else. And as for the manifest superiority of "peaked" chambers over "flat" ceiled ones, it being a question of taste solely—which is often a very arbitrary matter—I shall not dispute him. The adage, "*de gustibus non disputandum*" must suffice.*

* JEFFREYS must allow us to show him that he entirely misunderstands Mr. DAVIS' design, which he criticises. What he calls the "front porch," is not merely a porch, but is a gable, carried up of the same width at the front and rear with a roof, running through from the top of the gable over front porch to the top of gable over back porch. As the ridge of this roof, extending from the front gable to the rear gable, is six feet higher than the ridge of the lower roof on each side of it (over what JEFFREYS calls the main building,) and as it measures

Mr. Davis says "the umbrage, (miscalled veranda,) is objected to from its not *returning* on the ends of the building."

Critique says, "the veranda should extend *no further than the walls* of the house, *unless* it return down the sides," &c.

Mr. D. also asks how the veranda,* I beg his pardon, umbrage,† for I *should* speak professionally, is shown to be a defect, in thus running past the front of the house without returning down its sides? Why simply, sir, because there is no apparent utility in it, and quite certainly no ornament; and when neither of these requisites are effected, the thing is worthless—a false pretense.

Mr. D. "There is no skylight." Then of course there is a deck on the roof, although I submit that in placing his "parapet" (he is right in that term) several feet below its elevation, and giving the sight-seers a chance to "slip," by a mis-step, several feet "down the steep sides" of the roof before the parapet catches them, it would have been better that it were on a level with the deck,—thus making it look *like* a deck instead of looking, as I insist it does, *more* like a skylight.

But, I choose not to bandy words with Mr. Davis. He is a very clever and accomplished architect; and among his portfolios, which he has heretofore politely given to my observation, (although an entire stranger to me personally,) I have seen many very beautiful and tasteful designs, as well as some which appeared to be devised more for ornament than utility, or in accordance with *true* taste or proper keeping. Still, like most professional men, I suppose Mr. Davis designs for the many, and must please his customers. It should, however, be borne in mind that an architect can do much to mould the public taste to a correct standard; and in a country like ours, utility, convenience, and a fitness of things to time, place, and occupation, as well as circumstances; or perhaps, in better phrase, "good keeping," should be the great desideratum in all erections of this kind. When we come to "talk the thing down," and mutually understand each other, I fancy he and I would not widely differ.

Jeffreys.

CHEAP SUBSTITUTE FOR GREEN-HOUSES.

BY S. B. GOOKINS, TERRE HAUTE, IA.

Mr. Downing—I have a word or two to say to those who do not keep green-houses, and therefore deprive themselves of the pleasure of plants in winter. The number of those who enjoy the luxury of the green-house will ever be small. Commercial gardens must have them of course. To them, however, they are not luxuries, but, as the political economist would say, "articles of prime necessity," being kept for profit. Men of wealth can adorn and beautify their country seats, and gratify their tastes with the spectacle of vegetable life, during the bleak days of winter, by means of the green-house or conservatory, without stop-

about 67 feet in length, while the lower roof measures only 56 feet, it is very clear that Mr. Davis is correct in calling the roof that extends from the front to the back gable "the main roof;" and it is no less true, that the composition has more character and spirit from keeping the roof on either side subordinate to this. Ed.

* "Veranda: An oriental word, denoting a kind of open portico, formed by extending a sloping roof beyond the main building." Noah Webster.

† "Umbrage: A shade; a screen of trees; shadow; shade; slight appearance; suspicion of injury; offence; resentment." Ibid.

ping to count the cost. But "we, the people," are neither commercial gardeners, nor men of wealth; yet we love the beautiful things which God has made; and there are pure tastes which would seek pleasure in this source of enjoyment, without the apparent means of gratification.

To such I would say, that any one who has sufficient mechanical genius to dig a hole, or build a pig-pen, may have plants in winter, and never realise the trouble or expense they occasion. I know this from having tried the experiment.

For several years previous to the present, I was living in town, where I had no place for a green-house, nor did I feel inclined to erect one there if this had not been the case. Selecting a place in the garden where the sun would shine for the longest time, in the short cold days of winter, I had a pit dug, six feet in depth, having the sides nearly perpendicular, sloping only enough to prevent their "caving in," except the north, which was left with a considerable slope, so as to present a fairer surface to the rays of the sun. Against this slope was erected a rough staging for pot plants. Around this hole was built a *pen* of rough planks, nailed to studs standing on the ground,—the studs being on the outside of the partition; and outside of this another of the same sort, with studs on the outside, leaving a space of about fifteen inches between,—the studs of the two partitions being connected by ties, to give strength to the wall. The space between may be filled with tan, or fresh stable manure. I have tried both, with equal success. The walls in front and rear may be two and a half or three feet high, and rising to a ridge which should be at least two-thirds of the distance from front to rear, giving a gentle inclination to the south, and a short steep pitch to the north. The southern slope is to be covered with common green-house sash and glass. That is the only part of the structure requiring *mechanical* aid or expense. All the remainder can be done by a common laborer, properly directed. No door is required. Enter by raising a light of sash, and descend by a ladder or steps, which you may make in your own way.

In a cold stove of this description, I have kept for several winters Oleanders, Rhododendrons, all the tender Roses, Camellias, Cactus, Calla etheopica, Hydrangeas, Abutilon striatum, Oranges, Azaleas, wall flowers, Hyacinths, Pelargoniums, and divers others, in perfect safety, without any artificial heat whatever; and I have no doubt the list might be many times doubled. Some of the more tender plants are unsafe, though I have kept Fuchsias, Ixias, Oxalis Bowii, Nerine undulata, &c., but they do not do as well. There are several little flowering plants which are perfectly at home here. The Polyanthus grows all winter, and is sure to be showing its pretty smiling face the first sunny days of February.

There is, therefore, in the fact that we may not have green-houses, arranged upon scientific principles and erected at considerable expense, no reason why we shall deny ourselves the pleasure of having exotic plants in winter. When the weather is not too cold, they may be allowed to visit the parlor, where their lively green and blooming faces will give unequivocal evidence that they are perfectly contented with their winter quarters.

At this present writing, I have Camellias as fine as I ever saw, which have been kept without furnaces, flues, or water-pipes; and during the present winter the mercury has been twice below zero. Yours,

S. B. Gookins.

Terre Haute, Feb. 15, 1850.

HOW TO MAKE DELICATE SEEDS GROW.

BY PROFESSOR LINDLEY.

"How am I to sow my flower-seeds?" "I have had some beautiful seeds given to me but I have no gardener, and I don't know what to do with them." "I don't know how it is, but my gardener never *can* get his seeds to grow. What *shall* I do?" "How deep, sir, *would* you advise me to bury my seeds?"

Such are the sounds of woe with which our ears are not uncommonly assailed. That information is much wanted in this matter is most certain; that endless mistakes follow in the train of all vague directions nobody can doubt; that seed-sowing does demand some "knack" and practice we readily admit, and therefore we shall on this occasion utter no *vox ambigua*, but cut the matter short by saying, "Don't bury your seeds at all!"

We can quite imagine the surprise that this announcement will occasion in some minds; but we presume to hope that when we have been heard to an end, the recommendation will not be thought so paradoxical as it appears to be.

Let us, in the first place, ask why seeds *are* buried alive under clods of earth? Does Nature thus inter them? And if so, who or what is her grave-digger? When the acorn falls it has no power of wriggling into a hole in the ground, and when the chickweed scatters its tiny seeds they lie and grow where they fall. What reasons, then, *can* gardeners have for making themselves seminal sextons?

"Reasons!" says the man of learning, "I will give you fifty; firstly, a seed must have darkness and oxide of hydrogen in order to germinate; under these influences its C combines with the O of the latter, and forms $CO_{\frac{2}{}}$ which is extricated; then distaste comes into play, and the amylaceous particles are saccharified; thirdly"—but hold—enough of that. "Reasons!" says Mr. Polyanthus, the gardener, "why how are you to keep the birds off if you do not bury the seeds? or the mice? or such vermin. How are you to keep them moist when they first chip the shell? How are they to hold to the soil when they have got a root? Reasons enough are these, I think."

Certainly. But, then, cannot all these objects be secured by other means than burial? Let us see.

We want fine dry soil. First provide that; get the ground level, and press it gently with a piece of tile or glass. If it contains stones or clods remove them. If your seeds are very small, sift over it a little silver sand, or peat; upon this scatter the seeds *thinly*. If they are excessively small mix them before sowing with dry sand or peat, in order to separate them; and again with gentleness press all flat.

Then provide some coarse Moss—any sort will do; but Bog-moss or Sphagnum is the best—having previously soaked it in boiling water to kill insects or their eggs. Press it till its wetness is exchanged for dampness, and then, while warm, scatter it *loosely* over the seeds. Press it down; invert over the Moss a common garden pot, lay a tile on the hole, and the operation is performed.

But the little apparatus thus contrived must be watched. In a day or two lift up the pot, raise the Moss, and examine the seeds. If the moss is dry, which is not likely to happen, again damp it with *warm* water. If all is still, have patience. Thus go on until you find your seeds *beginning* to grow. Then remove the tile from the hole in your pot, and leave them for another day. At the end of that time you will possibly find that the seeds have grown much more; if so take away a part of the Moss, so as to give the young things more air and light. The next day, raise the pot on one side, so as to open it to the south. This may be done with a stone placed beneath its front edge; but do not raise it all round, because if you do the strong current of air setting over your seedlings and through the hole in the pot will chill them. As soon as you find the seedlings green and

plump and stout, the Moss may be entirely removed and the pot raised higher. And very soon that, too, may be quite dispensed with, unless there are frosts at night, or bitter dry easterly winds by day. In the former case, replace the pot every night and take it off again in the morning; in the latter, it is wise to place a little screen between the plants and the wind. For this purpose a pantile is a capital thing, but a piece of board, or any such matter, will do.

In this way you secure all that you want in order to get a hardy seed to grow: darkness, moisture, air, warmth; and afterwards moisture, air, light and shelter.

Let no one say that large seeds cannot thus be raised. The finest Oaks spring from acorns dropped in the forest and covered by a few leaves. The Sycamore, the Ash, the Beech, the Horse Chestnut will all sow themselves wherever their seeds can stick to the ground until a coverlet of leaves is moistened by an April shower and warmed by an April sun. Neither have such seeds any difficulty in steadying themselves by their roots; a long fang is driven by vital impulse into the earth, and it is to that, and not to a bit of the buried neck of the stem, that the seedling trusts for support and nourishment.

We will only add one word. Those who have ever attempted to sow seeds upon rockwork, know to their cost how very difficult it is to make such seeds take root. The method now proposed answers the end completely, and it is the only plan, which, in difficult cases, does succeed. *Experto crede Roberto.*

NOTES ON FRENCH NURSERIES.

BY JAS. W. HOOKER, ROCHESTER, N. Y.

One of the most striking contrasts which one observes on crossing from England to France, between the two countries, is the entirely different styles of planting out trees, shrubs and flowers, which are adopted by the men of these several countries. The English and the French gardener are operating upon two distinct and opposite ideas. The Frenchman endeavors to *make* things beautiful; the Englishman permits them to become so, by assisting nature to work out her own idea, confidently expecting that the infinite variety of beautiful forms which she assumes will exceed the puny productions of his own fancy as far as the Infinite Mind, from which these forms emanate, exceeds his own in resources. Need I say which has proved himself the most skilful workman, especially since the world is full of praises to English landscape gardeners?

This impression is confirmed at every step that is taken, by the ever-present Lombardy poplar, not cultivated solely for "liberty trees,"—to which use however a large number have of late been put—but every farm where a tree of any sort is to be seen, must have its poplar, either planted along the boundaries, or set in squares, and grown for timber and fire-wood; its formal and upright head, although not uninteresting in due proportion with other trees, gives rather a stiff and monotonous appearance to the landscape, when it alone is to be seen.

The perfection of this formal style is seen at Versailles, in the palace gardens. There may be found avenues of Elms, Lindens, Beeches, Horse-chestnuts &c., clipped in the form of Gothic arches, and stretching as far as the eye can reach in one unbroken wall of green leaves, which constant clipping for many years has brought to such a mathematical accuracy as to afford no variety or intricacy—in short, no relief to the

eye—and exciting no desire to trace its course to a different point of view.

The gardens, also, furnish abundant proof of the same prevailing taste. Instead of the winding walk, the rustic arbor, and the graceful but perhaps unnoticed screen, we everywhere meet the regularly laid out flower-garden, with straight rows of Dahlias, Asters, Chrysanthemums &c. These walks, though well cultivated, and usually containing many fine plants, still lack the charm which all admit is found in English gardens.

It were strange, however, if a people like the French should not excel in some departments of horticulture; and, in at least one respect, I think they do excel. I mean in the cultivation of fruit trees; especially dwarf, or pyramidal-trained trees. Their methods have been so fully detailed in many pomological works, that it is unnecessary for me to repeat them, merely remarking that the very severe pruning which they practice, will, I believe, be found unnecessary for the production of fine specimens in this country, especially where judicious root-pruning is practiced. One evidence of their success in this department, is the abundance of fine pears which are met with in the markets of Paris.* These pears are nearly all produced on trees worked upon the Quince stock, which seems to be a general favorite; in fact, some nurserymen do not cultivate pears upon any other stock.

The universal practice of planting fruit-trees, which prevails in France, gives encouragement and support to a large number of nurserymen, whose principal business is the cultivation of the different species of fruit trees. Among those which I have visited, the following appear to me worthy of notice.

Messrs. Jamin and Durand, (*near Paris.*) This firm had a fine stock of trees on hand, a large part of which were pears; but other fruits, roses, and some fine trees and shrubs, are cultivated to a considerable extent. They have adopted the commendable practice of planting a standard tree of each variety, which they cultivate for sale. This involves considerable trouble and expense; but is the only way to secure perfect accuracy of nomenclature, and protect their customers from worthless varieties, which are annually appearing in the already almost endless catalogues of some nurserymen. I was happy to find a disposition on the part of some nurserymen to dismiss these useless names from good company, as the public have come to understand pretty well what's in a name. Their fruit room was an excellent school for the amateur, and furnished substantial proof of the value of the varieties which they cultivate.

Mr. A. Leroy, Angers. This gentleman has a most extensive and well-cultivated establishment, situated in a part of the country where the mildness of the climate and the excellence of the soil renders the cultivation in the open air, of many beautiful and useful plants, practicable there, which can only be raised under glass, or in very sheltered situations, about Paris.

Here may be seen groves of splendid magnolias, as thrifty and full of blossom-buds as could be desired; Camelias in full flower, without the least protection; Figs abundant; and some rather tender evergreens, as the *Araucaria imbricata*, Funebral cypress, &c., exhibiting all their justly praised attractions. The superior advantages possessed by Mr. Leroy enable him to cultivate a very large variety of plants, without being compelled to resort to glass struc-

* The White Doyenne was the most abundant and highly esteemed of all the pears which were in season at the time I was in Paris. The uniformly large size and great beauty of the specimens was to me quite a comment on what are called "worn out varieties." The Duchess d'Angouleme stood next in order of consequence, and fully retained its high reputation. Other varieties were common, but none seemed to take the precedence of these.

tures, except to a very limited extent; and the vast stock which he has on hand enables him to supply orders to almost any extent. He has lately sent an agent to this country, and I presume will hereafter receive his full share of American patronage. His stock of pear trees seemed to be inexhaustible; and the extent of his grounds, (200 acres,) requires the employment of so many men, that very skilful supervision must be necessary to make the employment of so much capital profitable to the proprietor.

Mr. L. also cultivates great quantities of seedling forest trees, among which the universal poplar is very conspicuous.

Mr. Goutier, Fontenay Aux Roses. This establishment is principally devoted to the propagation of small plants, such as stocks for the use of nurseries, and seedling forest trees; but the cultivation of roses and other flowering shrubs, forms a considerable part of his business. The proprietor is a man of considerable enterprise, and certainly shows superior skill in his profession.

These establishments may be taken as favorable specimens of their respective branches of business; and although conducted in a manner hardly practicable here, are each well worthy of a visit from any person who takes the least interest in the subject of horticulture. Their methods of cultivation differ from our own, mainly, in the much greater amount of manual labor which is expended; they use no horse power either in the preparation or after-culture of the soil, but the results of their efforts are remarkable. More vigorous and healthful trees and shrubs I have never seen, and the prices at which they are sold seem to show that manual labor, where it can be had at low prices, is cheaper than the employment of animals. Yours, J. W. H.

ON THE GLADIOLUS OR CORN-FLAG.

BY AN AMATEUR, NEW-YORK.

I AM not a little surprised that this beautiful genus of bulbous plants is not more universally known and cultivated in the flower garden. Its varieties produce their long spikes of beautiful flowers, of various shades, from pure white to rich purple, for a long time during the hottest of our mid-summer weather, when there are few things so gay and beautiful in the flower garden. They have the merit, too, of delighting in our mid-summer sun, which injures the colours of so many plants.

The common Gladiolus or corn-flag, (*G. communis*,) with purple flowers, is pretty well known in our gardens; as being perfectly hardy, it may be left to take care of itself among other tenants of the open borders. Many gladioli are from the Cape of Good Hope, and though beautiful, are too delicate, except for the green-house. But there are also many from Turkey, Russia, and the north of Europe, as well as hybrid varieties, raised in European gardens, which may be grown in perfection in the open air, if the beds in which they are planted are sufficiently covered in winter to protect them against severe frost. In some parts of the middle states—as at Philadelphia and Baltimore—three or four inches of tan-bark, laid over the beds in the autumn, will effect this; and in the more northern districts, covering the beds at the approach of

severe frost with litter or straw, to the depth of 20 inches, will protect them fully,—a very little trouble for the sake of having a superb bed of gladioli.

Many persons take up the bulbs in autumn, and give them the same treatment as the Dahlia, planting them out again in April.

If we suppose the more hardy sorts of gladioli to be planted to remain permanently in the open borders, their culture is very simple. All they require, is a soil about a foot deep, composed of rotten dung, chopped sods, and sand, in equal parts. If the subsoil below is not sandy or gravelly, so as to let the water run off freely, there should be four inches of broken bricks or small stones put at the bottom of the bed; and if the subsoil is quite retentive, a small drain should be connected with this underlayer of stones,—the object being to attain perfect security against stagnant water in winter.

In a bed so prepared, the bulbs may be planted any time from the 10th of April till the 10th of May. The top of the bulb should be planted about four inches below the surface, and three or four bulbs should be placed within four or five inches of each other—so as to make a cluster or patch,—leaving an interval of eighteen inches each way between the patches.

Most of the gladioli for the open border grow about two feet high; some, as *G. gandivensis*, three feet high. The best effect is produced, therefore, by covering the surface of the bed with Mignonette, Sweet Alyssum, Portulaccas, or any other trailing annual plants, that serve the double purpose of concealing the soil and adding to the beauty of the whole border.

Two of the most showy and easily cultivated sorts, are the many flowered Gladiolus or corn-flag, (*G. floribundus*,) and the "Glory of Ghent" Gladiolus, (*G. gandivensis.*) They both grow with luxuriance, and produce a great profusion of superb flesh-coloured and bright orange scarlet flowers. G. psittacina, (parrot striped corn-flag,) is also common in many gardens; but its colours are dull, compared with the two first named. The foregoing three sorts may be had of Thorburn, Buist, or any of the principal seedsmen. With the hope of drawing attention to other fine varieties of this beautiful plant, I give the following descriptions of sorts that may be cultivated in the open border, as I have directed.

Gladiolus floribundus—(the many flowered corn-flag.)—Native of the south of Af-

Fig. 106.—*Gladiolus floribundus.*

rica. The leaves are long, broad, sword-shaped; the flowers very large, spreading; the usual tint is a delicate flesh-colour, with a bright red strip on each petal. The

flower stems are profusely studded with blossoms, which open in succession. Blooms the last of June. Two feet high.

Fig. 107.—*Gladiolus gandivensis.*

GLADIOLUS GANDIVENSIS—(the Ghent corn-flag.)—A very showy hybrid, raised in Ghent, Belgium. The flowers are very large, and in colour a fine rich orange-scarlet, relieved with yellow. The leaves are usually broad and strong. Blooms from July to September. Three feet high.

GLADIOLUS PSITTACINUS—(the parrot-like corn-flag.)—Native of the Natal river. Leaves large, dark green; flowers large; petals incurved; orange yellow and green; mottled. August. Three feet high.

GLADIOLUS FORMOSSISSIMA—(the superb corn-flag.)—A superb hybrid variety, from Belgium. Habit like *G. gandivensis*, but the flowers much finer; the colour a rich orange crimson. Still rare.

GLADIOLUS BLANDUS—(the fairest corn-flag.)—Native of the Cape of Good Hope. Flowers large, flesh-coloured, with pale red spots on the lower petals. Flowers in July. Two feet high. There is a variety with pure white flowers, another with purple, and another with light pink flowers; all beautiful.

GLADIOLUS RAMOSUS—(the branching corn-flag.)—Leaves broad; flowers large and spreading, light rosy pink, borne on a branching stem. Mid-summer. Three to four feet.

GLADIOLUS HERBERTII—(Herbert's corn-flag.)—An English hybrid. Flowers rosy crimson, with deep-coloured feather. Blooms in July. Grows one foot and a half high.

GLADIOLUS INSIGNIS—(remarkable corn-flag.)—A hybrid sort. Leaves rather narrow and long; flowers large, crimson, with a dash of bluish purple on the segments. They are borne chiefly on the upper side of a bending stem, as in *G. cardinalis*. July to September. Three feet high.

GLADIOLUS BYZANTINUS—(the Turkish corn-flag.)—Native of Turkey. Flowers a good deal like the common purple corn-flag, (*G. communis*,) but larger; colour rich purple, with pale feather. There is a variety of this (*G. b. albus*,) with white flowers, marked with dark purple.

The Belgians are great admirers of the Gladioli, and cultivate at least 50 beautiful varieties. M. VAN HOUTTE's garden, at Ghent, has a particularly rich collection.

As seeds ripen abundantly in this climate, and soon produce blooming plants, I hope our amateurs will undertake to raise *hybrids*. No doubt varieties may be raised in this way as hardy as the common purple one, which I have known to stand 20 degrees below zero (Fahrenheit,) without injury. Yours, AN AMATEUR.

THE CULTURE OF THE TULIP.

BY JAMES DOUGALL, AMHERSTBURGH, CANADA.

In this country, where there is but little of the "retired leisure that in trained gardens takes its pleasure," which abounds in older countries, comparatively little attention has hitherto been paid to florists' flowers; and especially is this true with reference to what has often been considered the most beautiful of all flowers, namely, the Tulip.

The claims of this flower to consideration are, its tall graceful shape, its large symmetrical flower, the pearly or golden purity of the ground, together with the unrivalled variety and beauty of the coloured streaks that mark the petals, which are probably without comparison in the floral kingdom. Such characteristics would warrant the cultivation of the Tulip by all admirers of fine flowers, even though that cultivation were difficult and uncertain; but when it is added, that few flowers are more hardy, or grow with less care, it is easier to account for the enthusiasm respecting it, that has long prevailed in Europe, than for the apathy of the florists of this new continent.

The characteristics of a fine Tulip are, 1st, a strong upright stem; 2d, a large flower, with the petals so arranged as to form a perfect cup, neither too short nor too long; 3d, a fine white or yellow ground colour,—and if the latter, any shade from cream colour to the deepest gold; 4th, streaks, stripes, or edges of rich colours around, or through the petals, and as nearly uniform on the three outside and three inside petals as possible,—there being a slight difference in the marking of the two sets.

The most common faults of Tulips, the opposites of the foregoing, a weak, bending stem, pointed or loose and straggling petals, a cup too short or too long for symmetry, colours running into each other or clouding the purity of the stripes, running down to the bottom of the petals, or, worst of all, a dark coloured bottom to the cup, or, what is equally bad, a yellow bottom if the ground be white.

Double and parrot Tulips are only kept for curiosity, and as border flowers; and early and sweet scented Tulips are in the same predicament. None of them are ever considered as belonging to fine collections. The same may be said of selfs; that is, those which are all one colour, and marled Tulips.

Fig. 408.—*A Perfect Tulip.*

The culture of Tulips is very simple, as they will grow in almost any soil and with almost any treatment; but in order to bring them to perfection, they should have a deep, moderately rich soil, not recently manured, or, if so, with very old manure; as fresh

manure injures the shape and colour of the flowers. All stones, of any size, should be removed, to prevent distortion of the stems, or, what will be the same thing, the earth that immediately covers the roots, may be sifted through a coarse sieve or screen. The beds in which Tulips are planted should not be more than three or four feet wide, and the bulbs should be placed about six inches apart, in rows, which, in order that the earth may be freely stirred, should be about eight inches asunder.

Some florists prefer them as wide as eight or nine inches apart each way, and, certainly, when there is plenty of ground, this ample space will conduce to the strength of the roots and flowers. Blooming roots should be covered to the depth of about five inches from the base of the bulb, and smaller roots less. In spring, the earth should be occasionally stirred, to promote the growth of the flowers, and destroy weeds, taking care not to injure the roots, stems or leaves. When the bed comes into bloom, it will, if the collection be good, most amply repay this care, were it ten times as great, by the extraordinary variety and beauty of the flowers, which, instead of falling in a day or two, as is the case with many fine flowers, will last in perfection for a week or, with care, more than a fortnight.

Tulip amateurs—in order to bring the flowers to the greatest size and purity of colour, (both of which objects are, to some extent, hindered by the unshaded rays of the sun,) and, at the same time, to shield them from storms of wind, rain, &c., which might prove very injurious—cover the show-beds with any kind of sheeting, fastened to a wooden frame. This frame, which slopes either to one or both sides, is of the simplest construction,—sometimes just high enough to cover the flowers, and sometimes sufficiently high and wide for a party of visitors to walk underneath. A bed thus covered will last in perfection for about three weeks; and those who have not seen a bed so treated, can form no idea of the gorgeousness of the display. It is to be observed, however, that this shading from the sun and rain of heaven, materially weakens the roots, and should not be resorted to except when the party has a duplicate bed left uncovered, more especially as there will be a most beautiful show for a week or ten days without it.

Immediately after flowering, care should be taken to break off the seed pods, unless seed be wanted, in which case, one or two of the best may be left; but this materially weakens the roots. And as soon as the flowering stems have withered two or three inches down, the roots should be lifted and placed in some shaded and airy place to harden, or, what will do better, they may be laid down in rows just as taken up, and covered with a little dry earth,—care being taken in all cases, where the sorts are named, to keep the tallies between the different varieties.

After the bulbs are thus dried and hardened, they should be freed from stems, fibres, and loose skins, and put up according to their kinds in paper bags, which may be hung up or placed on a shelf in any dry, cool room, till time for planting, which may be done, as before described, any time before winter sets in. If the time of lifting is delayed till the stem is wholly withered, they may be thoroughly cleaned and put past in the paper bags, as they are taken out of the ground, provided they are lifted in dry weather; but it is much preferable to lift them earlier, as above directed, as they will bloom both stronger and finer than if lifted late. It is, however, to be remarked, that Tulips will do very well, to

be left in the same ground for two years, without moving them at all.

With regard to raising Tulips from seed, the process is so tedious and unsatisfactory,—taking six or seven years to obtain flowers, which, after all, are probably worthless,—that few, except the great professional florists of the old world, attempt it; and we believe that it is not once in several years that they unitedly succeed in bringing forward any real acquisition. When they do, however, the prices they demand for some time are enormous, say from one hundred to five hundred guineas a root. Indeed, some kinds which have been cultivated for twenty-five years, still command five or six guineas a root. Some kinds of Tulips increase more or less freely by offsets, whilst a few may be cultivated for years without any increase whatever. These latter kinds, if fine, must always be high priced; and it is, perhaps, the report of the enormous sums paid for some of them, that deters those who are not acquainted with Tulips, from commencing the cultivation of this beautiful flower altogether. The greater part of all the finest flowers, however, may be obtained now in this country, at very moderate rates; and, therefore, the time may come when every horticultural society here will have one of its annual shows, and that perhaps one of the finest of the whole, devoted exclusively to Tulips, as is the case with many similar associations in Britain. JAMES DOUGALL.

Rosebank, near Amherstburgh, Feb. 15, 1850.

POMOLOGICAL NOTES, FROM THE WEST.

BY F. K. PHŒNIX, DELAVAN, WIS.

A. J. DOWNING, Esq:—Having lately made a visit to some of the principal nurseries and orchards of central Illinois, and had the pleasure of testing many sorts of apples, I thought it might not be unacceptable to your readers to give the results of my observations should they be thought worthy a place in the Horticulturist.

I would remark, in the outset, that of all the apple-growing sections I have ever visited—and they are not few in number—central Illinois promises to hold the highest rank. No where else have I ever seen so much vigor, hardihood and productiveness combined in the tree, and size, beauty and flavor in the fruit. This locality would, then, seem most admirably adapted to bring out the feebler-growing, delicate varieties, in their highest perfection, while at the same time, those of a coarser, grosser character would incline to utter worthlessness; which is, in fact, precisely the case, though not to the extent with the latter class that might be expected, or that it is with the former.

I should fail in one important particular of doing my duty as "a sketcher," did I neglect to speak of the craft in that section, embracing, as it does, a body of the most skilful practical men, and the most thorough amateurs, with hearts as large as their own expansive prairies, and as warm as the glow of their rich Illinois coal fires.

In such hands there need be no fears of the future horticultural character of that section; though a portion of the inhabitants are not exactly of the right stamp, being partly "natives," with some foreigners,

who will however eventually yield to the mighty tide of progress.

But to my notes. I will begin with the *Belmot apple*, which I found in perfection with Mr. TRUESDELL, of Elgin, who has fruited it for several years, and esteems it in all respects one of the most desirable of early winter fruits.

Esopus Spitzenburg.—This I found in several collections, and in size and flavor fully equal to any eastern specimens I have ever seen. It proves thus far but a moderate bearer.

Monstrous Pippin, or Gloria Mundi. Utterly rejected on account of its unproductiveness and coarseness.

Dutch Codlin.—Rejected. Large and fair, but coarse.

Pennock.—Also rejected, but still quite popular in market, for its great size and beauty; is increasingly subject to the bitter-rot, though tolerably fair the past season.

Michael Henry Pippin.—A medium size, fair flavored fruit, nearly sweet; agreeable but not first rate. Those liking a high flavor would call it tame. A great bearer alternate years.

Westfield Seek-no-farther.—Esteemed every way, but does not keep as well at the east. Season, say from November to January.

Domini.—One of the most esteemed wherever tried, whether as a nursery or orchard tree. A wonderful grower and bearer, and large, showy, fair-flavored fruit. Externally it is sometimes specked, as with the bitter rot, but seems not to be injured by it.

Rawle's Janet.—Much esteemed as a long keeper, but not by all as of the finest flavor. Tree inclines to overbear when a part of the fruit is small. There seems to be two sub-varieties of the fruit growing on trees of the same habit and character. The one is rounder, less flattened, and ripens much earlier than the other, and will doubtless be best for the north, as it is thought by many the long-keeping variety will not ripen well in high latitudes.

Milam, or Hurrigan, or Winter Pearmain of the south. *The* universal "Sucker apple," as it might with propriety be termed. Not known in the books, that I am aware of, but very extensively cultivated at the south. Medium, short ovate, not ridged; colour sometimes a fine dark crimson on one side, paler, with faint stripes, on the other; and sometimes pale red on one side and yel. gr. on the other, with many rough russet specks and patches on its surface. Texture very agreeable, flavor mild and pleasant. Nov. to March. On the whole, excellent, though not of the highest flavor. Tree very thrifty and productive. Shoots upright, downy, and rather light colored. A notorious *sprouter* from the root; from which sprouts thousands of the trees, have been propagated.

Jersey Black—perhaps Black Apple of Coxe. Considerably cultivated and tolerably well liked at the south. Tree productive, but a very feeble grower.

Baldwin.—But little known as yet. Far as tried, very large and fair, with indications however of the bitter-rot.

Newtown Pippin.—Yellow or green or green and yellow. Plenty of the trees and fruit, but in a state of most glorious mixture and confusion! Seems by common consent to enjoy the title of "King of apples," though cultivators do not like the tree by any means. A good bearer, but a part of the fruit sometimes under-sized.

English Russet.—Winter Russet of many nurseries. Productive, and a long-keeper.

Golden Russet.—Probably English Golden Russet of Thomas, otherwise not known

in the books, that I am aware of. A singular fact, for no tree is more generally cultivated in the nurseries, so far as I am acquainted, than this. Much esteemed so far as tried. A rich, agreeable fruit, and keeps well, though not as well as the preceding. The tree, for hardihood, vigor—and I think I may add certainty of bearing—has no superior. For this section and the far north, as a tree, it has scarcely an equal, while the fruit certainly promises well.

Red Romanite.—Doubtless, Carthouse, or Gilpin, of the books. Extensively cultivated, and generally esteemed as a valuable long-keeping sort, though small and not of the highest flavor.

Limber-twig.—A very valuable long-keeper, and the tree the very type of hardihood and productiveness, bearing immensely every year. The fruit is small, but keeps till June or July; and though not of the highest flavor, is considered perfectly indispensable in good collections, and especially market orchards. It has by some been stated that there are two kinds of Limber-twigs, and I have tasted two very distinct sorts of apples under this name. If both have an equal claim to that name, they might very properly be distinguished as the large and small Limber-twig, by which I shall designate them until better advised. The trees, so far as I have been able to learn, possess a considerable similarity of habit—though I have seen but little of the Large Limber-twig trees. The Large is double the size of the other kind, not nearly so high coloured; ripens much earlier, and probably of a more simple flavor. Trees of the Large seemed to grow very slowly in the nursery, and the ends of the shoots were mildewed.

Vandervere Pippin.—"Windower," of the Dutch, and amongst them *the* apple for winter. Fair, large, showy, but rather coarse and sharp; excellent for cooking. Tree very thrifty and productive. Growth stout and sprawling. A profitable market variety. (Not the true Vandervere. Ed.)

Pryor Red.—By odds, the noblest and richest of russets. From medium to very large. Of an exceedingly rich russet flavor, which, were not the flesh rather dry, could hardly be equalled. Rather a shy bearer. Very widely cultivated and esteemed at the south. Season, November to April.

White Winter Pearmain.—Not known in the books, nor at the east, that I am aware of. Promises to become a great favorite, as it keeps well, and is of the very finest flavor, while the tree is unexceptionable. The fruit may, however, incline to be spotted and under-sized, in unfavorable localities. Medium, roundish; stem in a moderately deep russetted cavity; pale, greenish yellow, with faint flush. Flesh yellowish; of an agreeable texture, and rich, mild flavor; seeds long. December to April. Tree, in nursery, stout, upright grower; shoots various, very dark.

Grindstone.—A *hard* headed, long-keeper, but of a better flavor than I expected to find it, though far from first rate. Tree a wonderfully rapid, sprawling grower, and unproductive whilst young; is said to bear well afterwards. Probably a profitable market variety.

Wine Apple, of Illinois and Indiana: Very different from the Wine or Hay's Winter of the east. May very likely be Fall Wine of Ohio, and Cole's Wine, (No. 46.) Seems to be rather the favorite September and October apple of the south. Smallish, flattened; often, or generally one-sided; stem in a broad deep cavity. Eye in a broad, rather deep, plaited basin. A beautiful brilliant crimson blush, and pale yellow, faintly striped; the red often finely blotch-

ed. Flesh yellowish, with a rich flavor, inclining to sweet. Tree productive, but a slender, feeble grower.

Wine Sap.—A very handsome, fair-flavored valuable apple. Tree spreading, and inclines to over-bear. The fruit is thin, small. Esteemed.

Yellow Bellflower.—One of the noblest and best, every way. Could I have but one tree and fruit of that season, I think that would be my selection, at least for central Illinois. Nor do I fear it in southern Wisconsin, as the tree seems perfectly at home here. Where I visited, this is more esteemed than the

White Bellflower, or Green Bellflower of many western cultivators. A choice fruit, of unusually fine texture and flavor; not so large as the other. Tree productive, but more delicate, and probably less valuable every way for the north.

Rhode Island Greening.—Proves a fine-flavored, early winter apple; thus far a shy bearer. Promises better in southern Wisconsin.

Vandervere.—Newtown Spitzenburgh of the west. Well esteemed. (This is the true Vandervere, sent to us several times from the west as the Newtown Spitzenburgh. Ed.)

Roman Stem.—This I saw at but one place, where it was pretty well liked. Not large, but of a peculiar and very agreeable flavor.

Rambo.—A great favorite.

Fall Pippin.—Esteemed the first of all "big apples." Rather shy in bearing.

Fameuse.—An excellent bearer, and very handsome, choice fruit.

Yellow Ingestrie.—A very productive tree, but disliked at the south for its small size. Better esteemed this way, as far as tried.

Roxbury Russet.—Good, but thus far a shy bearer.

Early Harvest.—Esteemed, but not very productive.

Sweet Bough.—Thus far very unproductive.

Summer Pearmain.—Moderate bearer, but decidedly the finest of its season, which is the latter part of August. Slow grower.

Sweet June.—Not known in the books. I am not able to give a particular description of this fruit. It is said to be medium or large; pale yellow, and of tolerable flavor. Season July. Tree very productive.

Carolina Red June.—Esteemed the most valuable summer apple for the west, by those acquainted with it. Also an entire stranger at the east. Though not so early as some, yet the many good qualities of tree and fruit, combine to place it in the first rank. Tree very productive; in the nursery a slow grower.

There are many other promising fruits introduced, from which a pretty decisive report may be expected next season, should it prove a good fruit season. Among these I would mention Huser's June, Trenton Early, Hockhocking, (supposed) Early Pennock, Harvest Red Streak, Red Sweet Pippin, &c., &c. There are many seedlings, also, being brought forward, of which I will at present name but two, the Fulton Strawberry and Fulton; the latter only of which I have tasted. It is certainly a promising fruit.

Hoping that a kind Providence will allow western fruits to "speak for themselves" at our National Convention next fall, and that it may be in all respects worthy of our cause and country, I remain, very respectfully, yours, &c. F. K. Phœnix.

Delavan Nursery, Wisconsin, Feb. 1850.

HOW TO TREAT PEACH TREES.

BY AN OLD DIGGER.

Now is the time to "shorten-in" your peach, apricot, and nectarine trees, both for the sake of the fruit they will bear this season and the health and good condition of the trees. I suppose everybody understands the difference between shortening-in and common pruning. If not, I must make a long story short by saying, that shortening-in is nothing more than cutting off the *ends* of the last year's shoots.

Suppose, for instance, the case of a young peach tree just coming into bearing. The growth of last year consists of shoots, all over the outside of the head, or top of the tree, each shoot from ten to twenty inches long. Well, in the case of such a tree, I should shorten-in every shoot one-half, that is, I would cut off five inches of the end if the shoot is ten inches long, or ten inches if it is twice that length. If the tree has made but a moderate growth, then I would take off only a third; or the same if there is but a scanty store of blossom buds. But if the tree is strong and healthy, and shows an abundance of blossom-buds, then half the length of the last year's shoot is not too much.* The fruit will be larger, you will have as many bushels, and the flavor will be much richer; and what is of great consequence, the constitution of the tree will not be impaired by overbearing.

In the case of large, or old peach trees—especially if they have been neglected, or badly pruned—something must be done that will bring them within bounds again and restore them to good condition. This, as I have satisfied myself, may be done by "heading-in," which is nothing else than cutting back the ends of the principal limbs—say from two to four feet—in order to make the tree throw out a new head of young, healthy bearing wood. Of course, this proceeding loses you the crop of fruit for this year; so, that if that is important, you must take *one side* of the tree this year, leaving the other side to bear, and next year head-in the other side. In this way I have restored old apricot and peach trees that were "given up by the doctors" as superannuated and worn out in service, to a pretty respectable condition of youth again; good at least for half-a-dozen years more.

It is the fashion now-a-days, when the chemists and doctors wish to know what is to be done to help a plant or tree, to *examine its ashes.* It is, in truth, not a bad plan, and is evidently founded on the old doctrine that the new grows out of the old; "ashes to ashes and dust to dust." Exactly what the elements of the peach tree ash are I don't know, for I have not been able to find any analysis; but I conclude they are pretty largely *lime* and *potash*, for I have found by repeated trials that *wood-ashes* is the very substance, (along with sufficient manure in the soil, mind,) to maintain a healthy, substantial and productive habit in a peach tree.

Don't be so foolish, (as many persons are, when they are going to give an extraordinary relish of new fangled manure to a plant,) don't be so foolish as to content yourself with sprinkling four or five handfuls of ashes around a peach tree and expect its leaves to turn colour with a lease of new life. Take half-a-peck of *leached* ashes to

* I mean, of all the strongest shoots. The weak ones may be left two-thirds their whole length.

a young tree, or half-a-bushel to a full grown tree—in that proportion at least; put not a dust of it around the trunk, (that is, so far as benefitting the roots go,) but make a calculation with your eye of how far the roots of the tree spread; it may be two feet, it may be six feet every way from the trunk. Then, having satisfied yourself about where the greater part of the *young fibres* are, spread the ashes on the surface of the ground, over them, and turn it under about three inches with the three-pronged spud, or a light spade. If such treatment as this don't give you healthy trees, then your stock is radically diseased, and only worth a place on the wood-pile.

That little enemy, the peach-worm, will very likely have established himself in your trees; he is already there to a dead certainty if you are not wide awake to his sapping and mining habits. If, therefore, you have not been over your trees last fall, and got the upper hand of him for the next six months, altogether the best way of doing business with this gentleman is to Lynch him on the spot, by ferreting him out of his hole, in the neck of the tree, just below the surface of the ground. You can do this good turn for a peach tree in five minutes, by lifting the soil around it two or three inches deep, laying bare the stem just between wind and water, as the old sailors say. If all looks clean and smooth there, very well; replace the soil again. If, on the other hand, you see *gum*, then look out for the enemy. Scratch a moment with your knife where the gum oozes out, and you will get on his trail; cut into the bark till you find him—in the shape of a white grub, three-quarters of an inch long—and when found, "make no note of it," but settle his accounts as rapidly as you can.

This grub comes from an egg laid in the bark, in summer, by the winged insect. Unless the creature is wonderfully abundant, it contents itself with looking about for the tender bark at the surface of the ground. On this account it is a good plan to outwit the rascal by heaping up a little cone or pile of wood ashes, tan or sand, say six inches high, around the trunk. The sole object of this is to guard the soft place in the bark at the neck of the tree. On this account you must clear away the pile every fall, so as to let the bark harden again. If you do not, but keep it there winter and summer, you will find that it does no more good than blowing against the wind—for the very plain reason that the bark becomes tender at the top of the pile, instead of the surface of the ground, as before.

Some years ago a good deal was said in favor of pouring boiling water about the neck * of peach trees. It was said to kill the worms and do no harm to the tree. I am an advocate for this practice. I do not consider it, by any means, so thorough a means of ridding the tree of worms as "war to the knife" is, but still, it will in most cases, do the job for them most effectually; and many a tree that stands near the kitchen door, may be protected in this way by she who holds the kettle for a weapon, as well as by the "regular army" of practical gardeners.

Besides this, I have satisfied myself, by experiment, (though I am sorry I have not yet had time to get up the *theory*,) that a good dose of hot water is a means of bringing-to many a peach tree just about giving up the ghost. It seems to rouse the vital powers; and if there is life enough left, a good scalding at the neck seems to produce a reaction that is at times quite wonderful.

Three years ago I had two trees, a peach

* I mean by the neck the bottom of the trunk, just at the surface of the ground, where the roots start out.

and a favorite apricot, that had been failing for a couple of seasons—often thought before that very serviceable trees. They had been rather badly treated by the worm, to be sure, but that had been attended to in time, and the roots appeared to be in very fair condition. Still, the trees dwindled, looked sickly, and bore little or no fruit. As a desperate remedy, I resolved on a trial of hot water. I removed the soil directly round the neck of the tree, making a basin three inches deep and twenty inches across. Into this I poured twelve gallons of boiling water.

To my great satisfaction the trees, instead of dying, immediately pushed out vigorous shoots, took a healthy appearance, and made a fine growth of wood, and have since borne two crops of delicious fruit. I experimented last year, again, with equal success, and now am ready, like old Doctor Sangrado, to prescribe *hot water* in all desperate cases. Yours.

An Old Digger.

REVIEW.

Proceedings of the N. A. Pomological Convention, *held at Syracuse, September* 14, 1849. Pamphlet—64 pages.

Report of the Ohio Nurserymen and Fruit-growers' Convention, *held at Columbus, Dec.* 1849.

"I made me gardens and orchards, and planted trees in them of all kinds of fruit," said the wise man of the old world, thousands of years ago; and this, we see, is precisely what the people of this young country are busying themselves about at the present moment. Now and then they, too, are led, not by world-weariness, but by the "curculio" and the "blight," to exclaim—all is "vexation of spirit;" but in the main, they are better contented with their orchards and gardens than Solomon was with his, mainly because they are seeking after the *utility* rather than the mere personal pleasure of the thing.

Here are two goodly pamphlets, which are practical demonstrations that our people are wide awake; not that they do content themselves with crab apples, but will fill their orchards with none but the best. Oddly enough, as the novice would think, the great difficulty with them, is to find out what the "best fruits" are. Had the United States covered no more territory than England, we should have arrived at the solution of the question long ago; for it is no problem to a horticulturist at Boston, New-York, or Philadelphia; but in a country that embraces the two zones, with the thermometer in Maine and Iowa falling to 20 degrees below zero, while people in New-Orleans are feasting on green peas and strawberries, it is plain that experiment after experiment must be made in each district, or portion of the country, till the needful answers are obtained from all our various soils and climates.

The Report of the convention at Syracuse embraces a series of facts, especially adapted to, and especially valuable to the extreme northern and western portions of the Union; especially that belt including northern and western New-York, and all the district of western country bordering on the great lakes and the upper Mississippi.

The principal business of the convention was the discussion of fruits; and the pomologist and fruit-grower will find a good deal of interesting individual opinion, regarding the different varieties contained in

this report. It appears to us, however, that the vagueness of the old classification adopted ("first rate, second rate," &c.,) has led to apparent difference of opinion regarding many sorts, when a more definite standard of comparison would have settled the matter more definitely and speedily. The comparative terms for all fruits worthy of consideration by the New-York convention is much better, viz.—"good, very good, best;" and we think will come into general use.

The fruits which were agreed upon as "first rate," at Syracuse, are the following:*

PLUMS.	PEARS.
Smith's Orleans,	Fondante d'Automne,
Lawrence Favorite.	Gansel's Bergamot,
APPLES.	Dix,
Roxbury Russet.	Beurré Bosc.

The Duchess d'Angouleme pear gave rise to a great deal of discussion, and finally was pronounced first rate on quince, second rate on pear stocks. Passe Colmar was considered second rate, though Mr. HOVEY, of Boston, defended it stoutly as the "king of pears, with good cultivation." Fulton, St. Ghislain, Buffum and Beurré Diel, were placed in a sort of purgatory, between first and second rate. Easter Beurré, Long Green, Julienne, Napoleon, Frederick of Wurtemburgh, and Bleecker's Meadow, were considered second rate, pretty unanimously.

The following description of a new pear, from Prof. KIRTLAND of Cleveland, Ohio, a source we have much respect for, we copy from the report. A pear that has the Seckel for its mother, with a flavor "esteemed superior to its parent by many people," is worthy of a trial, to say the least.

KIRTLAND PEAR.

Synonyms—Seedling Seckel, Kirtland's Seedling.

"Size medium; the circumference six and a half inches; length, including stem, two and a half inches; form globular-ovate; exterior colour

* In addition to the standard sorts selected last year.

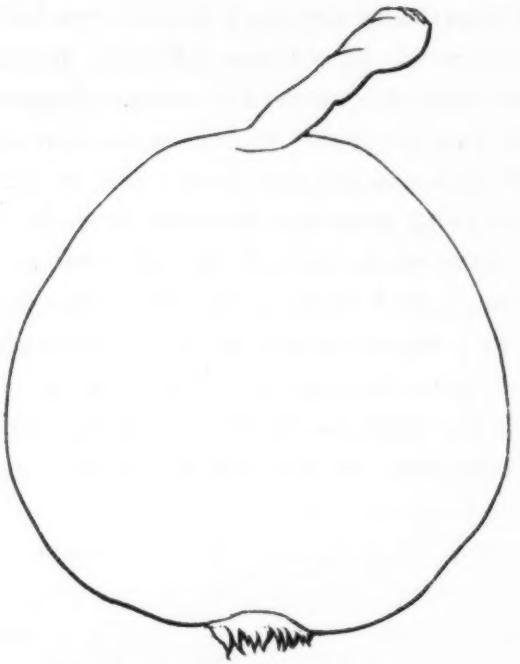

Fig. 409.—*The Kirtland Pear.*

rich crimson russet, varying to a dull green; texture fine, melting, juicy and rich; colour of flesh white; flavor aromatic, sweet, and in the highest degree delicious; seeds unusually full, short, blackish; stem six-eighths of an inch in length, thick, and somewhat curved; eye small, moderately deep, with the segments of the calyx short, reflexed and persistent; season September. The wood is the same colour as the fruit, and the general habit of the tree resembles a thrifty White Doyenne.

"REMARKS.—In the close of the year 1819, I furnished my brother, H. T. KIRTLAND, with a few seeds of the Seckel pear, grown in the state of Connecticut. From thence he raised several trees on his farm in Poland, Mahoning county, Ohio; one of which he gave me in the year 1825, which produced the fruit exhibited at the New-York State Fair, last autumn, at Buffalo. It is no novelty in Mahoning county, Ohio, but is well known by every cultivator of fruit, and is esteemed as one of the first varieties. In hardiness and productiveness it far excels the parent Seckel, and in point of flavor is esteemed superior by many people. The name attached to it has designated it for years, and was applied by the public as a compliment to the originator of the seedling, HENRY T. KIRTLAND."

Among the reports from various states, we notice a graphic one from Dr. KENNICOT, of Illinois, which lets us into the difficulties of fruit culture on the prairie lands of that state. The extremes of temperature, and the sudden variations of climate—much greater than we of the middle range of the

Union know anything about—render the culture of many fruits difficult. Notwithstanding this, there is great encouragement to plant orchards; and there are now 50 or 60 nurseries, of considerable size, in a state where 15 years ago there was scarcely such a thing as an orchard from one end to the other. The truth is, though northern Illinois is cold in winter, the thermometer falling sometimes as low as 20° below zero, yet the summers are so fine and the soil so fertile that, as the common phrase goes, "orchards are bound to grow there." We are glad to learn from Dr. K.'s report, that seedling peaches have borne, uninjured by the severity of winters which killed many of the imported sorts. Here is a hint that should not be overlookod in the northern belt of the Union, where "the peach crop cannot be depended on more than two seasons out of five."

The curculio, and the knots, are quite as troublesome in Illinois as at the east, and the pear blight far more so.

On the whole, we should judge that there are many difficulties attending the culture of choice fruits at the west, that will disappear when the country shall have been longer cultivated, and the over fertility of the soil,—which causes sponginess in the young wood, and plethora in the vegetable system,—is corrected.

In a very excellent report, made by Mr. PHŒNIX, of Wisconsin, he enumerates the peculiar difficulties experienced at the west, in fruit culture, and observes that the two great desiderata there, are,

"1st. So to modify and cultivate the soil, that the growth of trees shall be moderate and perfectly matured.

"2d. To protect and shelter tender trees, as far as possible, from injury in our winters."

"These objects will be best attained, as I conceive, by the following means: Selection of the hardiest sorts; elevated situations for fruit trees, and a soil not too rich; cultivation early in the season only; and protection by buildings, fences, hedges, &c., from our piercingly severe, drying, winter winds. I am inclined to think that some applications may be made to the soil, to induce an early mature growth."

These are good suggestions. They bear directly on the fact, that the climate of this north belt of the Union is severe in winter, and therefore varieties must be sought for, or originated, which are to bear that climate; and that there is a superabundance of vegetable matter in the soil. Touching this last point, we will make one suggestion.

If we were planting fruit trees in the west, upon new and fertile soil, we would always plant them on hills or ridges, raised one foot at least above the surrounding level. This would keep the collar of roots always a little "high and dry," and would force the tree to make short growth, and mature its wood early, hence exemption from the diseases that arise from excess of respiratory food.

Next, we would contrive to reduce the quantity of vegetable matter in the soil, and increase the lime and potash, in order to give greater firmness and consistency to the solid parts of the tree. This might be done in some cases by *burning* a portion of the soil, and in others by applying lime and ashes directly, as a top dressing.

The borders of the great lakes enjoy a comparatively mild climate, where the peach succeeds admirably,—much finer rareripes being produced on the southern shores of Lakes Ontario and Erie, than in New-Jersey.

From the report of Mr. ELLIOTT, of Cleveland, (which we would gladly notice in detail if our limits would allow,) we gather that the cherry, known as the "Swedish," in Ohio, is synonymous with the Early White Heart, and the "German May Duke," of the same district, is identical

with the Early Purple Guigne, as we suspected. Dr. WENDELL, of Albany, in his report, gives a description and figure of a seedling from Monroe county, N. Y., called the "Kingsley Apple," which is spoken of in terms of high praise. Guthrie's Apricot plum, a celebrated Scotch variety, has fruited in Albany, and is ranked below our fine native seedling plums by Dr. WENDELL.

FOREIGN NOTICES.

REAL EVERBLOOMING ROSES.—A continuous blooming rose, like the old common and crimson China, should be chosen in preference to any other, by all those who have small gardens, because they do not leave off flowering till the frost actually nips them. Those, therefore, who can plant but few will always have them in bloom. For this list, we are indebted to Mr. RIVERS, who has been kind enough to select them from much too large a catalogue for persons of small means to choose from.

Archduke Charles—rose, changing to crimson; very fine show flower.

Clara Sylvain—pure white and very distinct, do.

Cramoise superieure—brilliant crimson; most beautiful.

Eugene Beauharnais—bright amaranth; fine.

Madame Breon—brilliant rose; erect flower stems.

Mrs. Bosanquet—pale flesh colour; waxlike; superb.

Napoleon—very large blush, do.

President Olbecque—cherry red, do.

Prince Charles—brilliant carmine, do.

Annie Plantier—bright fawn colour, tinged with blush.

Carmine superb—fine deep carmine, do.

Eugene Hardy—creamy pale blush; fine.

Tancrede—very deep colour.

The first nine are perhaps the best, if there be any preference; but it is doubtful. The following are NOISETTES, blooming in clusters:

Fellenburgh—bright crimson.

Mrs. Glegg—pale flesh, nearly white, and dwarf habit.

Ophire—bright salmon and fawn; very fine.

Pourpre de Tyre—crimson purple; beautiful.

Zoheide—brilliant rose; very perfect.

Aimeé Vibert—pure white and very beautiful.

To these may be added Nankin and Lelieur. Whatever other roses may be had, these ought to be first with those who have room for but few. A rose is too conspicuous an ornament to be dispensed with; but it is far better to have them all blooming as long as the mild weather lasts, than to see bare trees and bushes after the month of July; and this can be very well secured by a careful selection at the outset. *Glenny's Garden Almanac*, 1850.

FROSTED PLANTS.—If, however, "once upon a time,"—as many of the old story books commence their wondrous tales—you should inadvertently give admittance to the icy king, do not either at once give up your plants for lost, nor yet be in too great a hurry to dislodge your freezing enemy. The advice which the King of Day gave to his ambitious yet earthy-headed son, when he counselled him to avoid extremes, and take a middle course—might, in many cases, be regarded as a good rule for regulating many gardening operations. Like Phaeton, lashing into madness his father's fiery steeds, many of us get into such a hurry that we cannot spare time quietly to ask ourselves as to the *why* and the *how* of our doings. Many green-house and cold-frame plants will stand several degrees of frost uninjured—that degree of low temperature which they will endure being in proportion to the nature of the plants, and the means which have been taken to harden their constitution: always provided they are allowed, or rather forced, to thaw again slowly and gradually. Of course there are limits, beyond which no care nor patience can ever recover plants thus frosted, such as when the sap vessels and cells are so effectually burst that no circulation can take place, and consequently decomposition must ensue. But when this extreme injury has not been reached, the plants may generally be saved by the avoiding of any sudden change. Thus, in such circumstances, whatever covering the plants possessed should remain upon them for the following day or two, and all the more if those days should happen to be bright and sunny. If the frost continues, turn the old and add fresh covering, to prevent it penetrating farther, and thus make matters worse. If a sudden and warm thaw succeeds the frost, allow the covering to remain, until the temperature within and without should become gradually equalised. If, however, the storm has been severe, and the quantity of necessary protecting materials bulky, and such as would easily ferment in a close warm atmosphere, then this fermentation must be avoided by removing a portion, as heat thrown in upon the plants from such a cause would be even more injurious than exposing them at once to a mild atmosphere.

From want of attention to these simple matters,

young gardeners and amateurs frequently lose many of their floral favorites. They know that in general circumstances their little pets dearly love the sun's light, and they hasten to expose them to his influence, displaying as much wisdom as parents who allow their young ones to place their very cold toes and fingers as near as possible to the blazing fire, and they wonder how it is possible that *they* can be so crippled with chilblains! Every good housewife knows that it would be downright madness in her to place frozen butcher's meat, or frozen vegetables of any kind, in hot or boiling water, well aware that she would only disgust and injure her guests with a mass of insipidity and decomposition. She places them first in the coldest water she can procure, that the frost may be discharged slowly and gradually, but effectually, before she commences the cooking process. Precisely the same principle must be resorted to in the case of tender plants slightly frozen, only, in the present case, as any addition of moisture would be a future annoyance, we must dispense with cold water, and allow them to be thawed by the milder atmosphere gradually reaching them. "But then," says friend Still-have-a-doubt, "it seems so odd that you should be always recommending as much light and air as possible to *growing* plants, and yet here you wish me to exclude for a time the influence of both." In reply, there are few general rules without exceptions, and these exceptions, if not too numerous, only give strength and validity to the rule. But, in the present case, we desire no exception, as the rule is unbroken. We advise that greenhouse, window, and bedding-out plants, preserved during the winter in places without artificial heat, should be kept from growing as much as possible, by keeping them cool and dry. We advise that they should have every possible exposure to light, that the little growth which does take place might prove an addition to the substance of the plant, and not a mere extension of the matter it previously contained, such as would be the case if the plants were in a dark sultry atmosphere. And we recommend abundance of air for keeping down all those fungous broods which gardeners technically call damp, and which, if allowed to accumulate in a close warm atmosphere, would soon make all your plants fit for the rubbish heap. Hence it is that the covering up of plants from light and air for any length of time, when still in a growing state, is attended with such disastrous consequences. Very different is it in the case before us. The plants are slightly frozen, and, therefore, growth is at a standstill. The cold will prevent moisture rising and being deposited, and, therefore, there will be nothing to feed and support those fungous damps which usually visit us. If the plants are not frosted enough to be permanently injured, they might thus be shut up for months, without taking more injury, provided the frost lasted as long. I think it was Mr. Errington who some years ago, in one of his admirable papers, recommended the allowing young cauliflower-plants to be slightly frosted before covering up. Upon the same principle, the nearer your hardy green-house or window-plants are to the freezing point, the more safely will they bear a lengthened covering up from light and air. The difficulty we have chiefly to contend with is, the rapidity of the changes of temperature in this country, which render frequent covering and uncovering necessary. For instance, verbenas are yet quite green, after the frost on the 28th, but a temperature of 50°, and a heavy fall of rain, will keep them so growing again that they will become easy victims to the next severe frost. Were our winters confined to a certain number of frosty weeks or months, we might allow many of our bedding-out plants to be slightly frozen, and then cover them up for the winter, removing the covering only when the cold season had passed away. This is the treatment that the majority of Alpine plants receive, from nature clothing them in winter with a mantle of snow, and the care and attention requisite for their cultivation in this country arises not from their tenderness, but from the changes to heat and cold, to which they are unavoidably subjected. *R. Fish. Cottage Gardener.*

DOMESTIC NOTICES.

Frontispiece—Belmead, Va.—The mansion house at Belmead is situated upon the James river, Va., 40 miles above the city of Richmond, and is in the pointed style of architecture of the English Tudor age. The designs were furnished by Alex. J. Davis, of New-York, in 1845.

The plan is extensive, embracing out-buildings serving many purposes; and few country residences in the United States have more ample accommodation. The material is brick, covered with an excellent stucco, laid off in courses, and coloured with warm grey tints in fresco, to match the trimmings, which are of well wrought granite from a neighboring quarry. The details of the architecture are full of character, and picturesque in their effect. The south entrance carriage way is 18 feet square, pointed, arched with a groined ceiling, under a lofty gable. This leads to a platform 13 by 18 feet, connecting with a terrace upon one side, and an umbrage upon the other. Part of the latter, seen in the engraving on the left, affords shelter to those witnessing arrivals or

departures. The front door opens into a hall, 38 feet long and 16 feet wide. At the centre of this hall, a transept passage leads to a library on the right, and private apartments, kitchen offices, &c., on the left. On one side of the hall, nearest the front door, is the principal stairway, circular in form, near which is a bath-room, with closets, entered from a chamber and dressing-room beyond; and on the other side of the hall is an office, or library cabinet, 12 by 17 feet. Adjacent is the library 16 by 23 feet, fitted up with cases the entire height, and filled with a choice collection of books.

And now from the *look-in* front, we will proceed to the *look-out* front, shown in the engraving. The great tower is 20 feet in diameter, and near 60 feet high. The arcaded vestibule is again groin arched, and open as a portico, and serves as a gallilee to the hall of entrance. The angle nearest in the engraving, contains the drawing-room, 17 by 25 feet, exclusive of the bay window, from which an extensive landscape view across the valley of the James river, and the distant hills,—the river meandering in the midst, its silver line lost in the distance. The bay windows are richly bordered with stained glass of ruby and gold, in vine-like forms, executed by HARRINGTON, of New-York, producing a rich and mellow tone of light in the apartment, in admirable keeping with its character; and the several mantel-pieces have wheat, maize, and tobacco, the staple productions of the plantation, sculptured upon their marble surfaces. The library and drawing-room have windows opening into a portion of the umbrage, intended as a conservatory for plants, which will give these rooms an air of summer, even in the depth of winter. This conservatory, forming a part of the umbrage, may be entirely removed in the summer, if it should be preferred to have the whole open for promenade. The dining-room has a china closet on the right of the chimney breast, and a spacious butler's pantry on the left. This dining-room is on the right of the tower in the view, and has its bay, like the drawing-room; and beyond are the offices, covered way to kitchen, &c., the latter being nearly lost in the forest on the west end of the site. The upper part of the tower contains an observatory and museum; and the subordinate parts are occupied by bedrooms, picture gallery, hall, and various accommodation. The great hall, and through it the whole house, is heated by a furnace in the basement. A supply of water, forced up by the hydraulic ram, from the foot of the hill, 400 yards distant from the house, rises 160 feet above the spring to a reservoir next the roof, delivering one gallon per 1¼ minute, is conducted by pipes to the bath-rooms, water closets, and the several chambers.

In the view here given, the artist has chosen a position showing the east end and north front, as seen from the river. The entrance front being on the south side, has only the finial over its gable, visible beyond the sky-light on the roof. Although the whole composition evinces great unity of feeling, it has nevertheless more variety of feature than we have ever before seen successfully introduced into a villa. Of windows alone, there is almost every kind used at the period, or era, to which the style belongs,—the triple lancet, the arched, the square headed, the bay, the oriel, and the triangular. There are three or four varieties of gables, with buttresses and turrets, and an air of originality and boldness is bestowed upon the whole composition by the great tower, with turretted angles, serving to give a pyramidal and artistical form to the whole pile of building.

This style of building, of which we have given a specimen in the mansion of Belmead, most especially recommends itself in rural residences, and their appendages. It admits of an agreeable symmetrical irregularity, and great variety of outline, both in plan and elevation. It is suited to uneven ground; and additions of rooms or offices may be made in it from time to time, with an increase of picturesque beauty, while it possesses many advantages for convenience, and the essential recommendation of being within the limits of economy in the execution. High roofs and chimney tops, which are inadmissible in the Grecian style, here contribute to picturesque character. Another circumstance that tends greatly to recommend this style for domestic buildings, upon a moderate scale, is that it allows the windows to be of very different dimensions and proportions, and plainer or more ornamented, on the same floor, as either internal convenience or the external elevation shall require. Neither is it one of its least favorable peculiarities, that such frequent and extensive application may be made of the projecting, or *bay* window, which admits of great diversity in the plan, proportions, elevation, and embellishment. While features of this description are almost sure to *tell* externally, and to possess a pictorial, if not invariably a strictly architectural value,—among other reasons, because when they rise from the ground by advancing beyond the general mass, they give an appearance of great solidity to its base; so do they come greatly to the aid of the architect in the interior, he being thus enabled to enlarge any particular room, without similarly increasing the one above it, or extending the general plan. They also materially conduce to beauty and cheerfulness within, inasmuch as they lead to variety of form, in the plan and disposition of the rooms themselves, and because, by projecting, they admit gleams of sunshine into an apartment both earlier and later than other windows having the same aspect. Even when a window of this kind has no lateral lights, and forms but a shallow recess, it conveys the idea of solidity in the walls, by seeming to be a deep *embrasure* cut out of their thickness; and as it generally enables us to dispense with other windows, at least on the same side of the floor, greater space may be obtained

between the window itself and the walls at right angles to it. The advantages resulting from this are not unimportant. In the first place, it enables us to place larger pieces of furniture on that side of the room; secondly, although a more extensive view is obtained of the prospect without, on which the window recess serves as a frame, the apartment itself seems less exposed, while the sun is less troublesome in summer. In addition to the recommendations already pointed out, bay and oriel windows assist greatly in keeping up symmetry where there are recesses, or even breaks in other parts of a room. The entire window enlargement of bay or oriel may also be shut off at night and in cold weather by sliding doors, so contributing to the comfort and warmth of those within.

The pointed style of architecture has already become popular for country dwellings on this side the Atlantic; and several of first class, such as "Kenwood," near Albany, N. Y., and "Walnut Wood," near Bridgeport, Ct., (also from the designs of Mr. Davis,) are fast initiating the American builders into a familiarity with its peculiar features; and as these become known, so will each succeeding example express more fully and accurately, according to its extent, the suggestions of an imaginative proprietor, combined with talent in the architect, its manifold beauties. * *

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NOTES ON THE NEW VERBENAS.—Among the many "floral gems," for which the horticultural public are indebted to the Messrs. THORBURN for their introduction, there are few that are likely to give more general satisfaction than the unrivalled collection of verbenas which they advertise in the March number of the Horticulturist. It is not to be denied that most of our American seedling Verbenas are not worthy a place in our gardens. Their habit is in general too upright, the trusses of bloom are small and ill-shaped, and the foliage poor. Messrs. THORBURN advertise a collection that will make sad havoc amongst them. Being one of the first that was favored by Mr. THORBURN with a plant of "Robinson's Defiance," I can speak from experience of its merits. Any of your readers who have grown "Beauty Supreme" last year, can form a pretty accurate conception of Defiance when I inform them that it has the same vigorous habit, the same sized truss, and larger foliage, and that it is a superb scarlet. It has flowered with me in February last, and is likely to be as free a bloomer in the green-house as Beauty Supreme; it is every way superb. Rosy Morn, Anacreon and Satellite, are each of them possessed of the same qualities. I saw the whole collection in flower in Mr. THORBURN's grounds last summer, and was charmed with them. There is no one pretending to have a bed of verbenas should be without them. If Messrs. Thorburn would introduce a pure white, possessing all the qualities of the above named, it would have a great run. To those purchasing the above, (including Beauty Supreme,) I would recommend to add the following, which I consider the best of our American varieties, viz. Briells, Jas. K Polk, Buist's Eclipse, Boll's Major Ringold, and Hogg's Bicolor Grandiflora, and, in the absence of a better white, Queen. Of sixteen varieties I have, I intend to throw all away, and confine myself to the ten varieties I have mentioned, which I consider the best in the country. Yours, respectfully, *John Quinn, gardener to Henry Vail, Esq., Ida Farm, Troy, N. Y., March 12th*, 1850.

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AMERICAN CAMELLIAS.—We have lately had in bloom, upon plants obligingly sent us by Messrs. PARSONS, of Flushing, N. Y., specimens of those two fine Camellias, originated by Col. WILDER, of Boston,—C. Wilderii and C. Abby Wilder.

They are certainly both fine varieties; the first a beautiful deep rose colour; the other white, with sometimes a delicate blush stripe.

CAMELIA WILDERI is *perfection*; that is to say, the most acute critic of florist's flowers, can find no fault with it, in form, size, arrangement of petals or colour. It fully deserves all the praise that has been bestowed on it.

And this reminds us to say, that the first of Camellia amateurs, N. J. BECAR, Esq., of Brooklyn, has raised three or four seedlings of the first merit—sorts that would make the fortune of a commercial gardener in Europe—and yet which, with his characteristic modesty, he has not even presented to public notice in any way. We have seen them several times this winter, and do not hesitate to say, they are equal to the very finest varieties produced abroad.

Mr. B., who has the finest Camellias in America, and has raised hundreds of seedlings for his own amusement, is of opinion that the seed of the Camellia ripens in our climate much more easily and perfectly than in Europe, and that it is easier to produce fine new varieties here than on the other side of the water.

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FINE COLLECTION OF PLANTS.—Passing through Williamsburgh a short time ago, we had great pleasure in a hasty examination of the fine exotic collection of Rev. A. P. CUMMINGS, of that place.

It is evidently the collection of an amateur fond of rarity and variety, but still not mere botanical curiosities; and contrasts favorably with some of the mere show collections of common species frequent about New-York. With respect to the *variety* of plants, it resembles some of the fine private collections in Philadelphia. Among the pretty species which we saw in bloom, were *Begonia manicata, B. hydrocotifolia, B. fuschsioides*, and *B. evecinea. Poinsetta pulcherima*, that gay Mexican plant, was glowing with its bright scarlet bracts; *Euphorbia splendens* and *jacquiniflora* were in full beauty; *Crinum longiflorum* was exceeding pretty; and that exquisite plant *Epacris grandiflora*, was finely decorated with its particoloured bells. Among other species in flower

were *Habrothamnus fascicularis, Echeveria grandiflora, Chirozema varium, Polygala cordata* and *P. grandiflora*, etc. A large variety of Camellias were also in full beauty, among which we noticed Sacconova, Prince Albert, Wilderi, Henri Favre, and many other excellent sorts.

The whole collection does credit to the skilful gardener, M COLEMAN, who is one of the best plant growers in the country.

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A BUDGET OF QUERIES.—None are more interested than myself in the queries and answers, which monthly appear in your journal; and supposing other readers feel a similar interest, I would like to propose a few, and solicit the editor's answers.

1st. Many valuable articles have appeared, editorial and communicated, in favor of the Osage Orange as a hedge plant, and placing it at the top of the list for that purpose. Has time, trial, and further experience confirmed these early impressions? (*a*)

2d. As great and extensive failures have occurred in propagating it from seed, either because it was old seed, or not properly managed, I would inquire whether age affects it, and what is the probable cause of so many failures? Whether submitting it to the action of frost, mixed with sand, or soaking it in water before planting, is the better way? (*b*)

3d. The "Working Farmer," edited by Prof. J. J. MAPES, New-York city, held out the opinion some months back, that if we did not wish to lose the use of the ground for twelve feet on each side of the hedge, do not plant the Osage Orange. No reason, or facts were given; yet not a few of us would like to know whether there is any ground for such broad assertions? (*c*)

4th. Does further observation and experience still give the preference to double, over single rows, in hedge planting? (*d*)

5th. What are the best varieties of apple, to dwarf on the Paradise stock? (*e*)

6th. What varieties of the cherry on the Mahaleb? (*f*)

7th What variety of Quince stock is the best to work the pear on? I notice some disagreement among *the doctors* on this point. (*g*)

8th. Why should the interesting "JEFFREYS," in your January number, declare—"In hedges, I have no sort of confidence?" And in offering his substitute, "wire," in which he has "*entire* confidence," has he offered a substitute which will answer the ordinary farmer, with limited means? and will it answer for road sides, and all outside enclosures? (*h*)

Enough, and I fear too many questions for one time; and I will postpone the balance. Respectfully, &c. *J. Chester county, Pa., Feb.* 13, 1850.

ANSWERS.—(*a*) We still think as highly as ever of the Osage Orange, as a hedge plant, for all points south of this; and the Buckthorn for districts north and east.

(*b*) We believe most of the failures in germinating the Osage Orange, is from the bad quality of the seeds. We understand that it has been the practice of some persons in Arkansas and Texas, who supply seeds, to get them out of the fruit (a rather tedious process, in the usual mode,) by first *boiling* the fruit; a process which, of course, injures the vitality of the seeds. When the seeds are picked out as they should be, they germinate as freely as peas, if sown in the spring in the same manner.

(*c*) The Osage Orange, when left to grow into a tree, sends out long roots; and so it will when planted in a hedge, and allowed to run up 8 or 10 feet high without clipping. But every observer knows that the roots of a tree extend in proportion to the extension of the top; and hence an Osage Orange hedge, which is clipped once or twice every year, and not allowed to grow more than 6 feet high, will never prove injurious by occupying more than its due share of the soil.

(*d*) Double rows, if a thick and impenetrable barrier against animals is the object, and a single row if the effect of a screen only is desired.

(*e*) The following are well adapted: Early Strawberry, Porter, Swaar, Dutch Mignonne, Vandervere, Waxen, Red Astrachan, Summer Rose, Ladies' Sweeting.

(*f*) All the varieties; but it is especially valuable for Bigarreau cherries, which do not bear well in some soils.

(*g*) The Angers quince.

(*h*) JEFFREYS belongs thoroughly to the spirit of the age, which demands the most economical, useful, and practicable things for the moment; and among such, undoubtedly, is the wire fence. A good hedge is more ornamental, more impenetrable, and more beautiful to the eye; but it requires time, and patience, and annual *care*, besides occupying more room than the wire fence. Each will find its advocates among certain classes of thinkers.

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CIRCULATION OF THE SAP.—If we take a glass tube, open at both ends, and put one end of it into a vessel of water to the depth of an inch,—after covering that end of the tube with a piece of bladder, or other animal membrane, and then pour into the tube a solution of sugar and water, so as to fill up the orifice eight or ten inches,—it will be seen in a short time that the liquid in the tube will rise, and sometimes to the height of several feet, and, at the same time, a downward current through the bladder into the water below will take place; which different movements of the fluid are no doubt due to two opposite currents of electricity. When DUTROCHET made this discovery, he thought he had learned the true theory of the circulation of the sap; that he had brought to light one of the hidden things relating to vegetable physiology. But I would ask whether this theory is quite satisfactory? Whether it is not open to, and liable to

some objections? In the experiment referred to, the ascending current is through the descending and against its motion. This is not so in the plant. The downward flow is through the same channel as the upward. The liquid in DUTROCHET's tube does not receive any additions, or undergo any changes from the atmosphere, before it begins its descending movement. Is this so in the vegetable orgrnization?

But my purpose is not so much to oppose the theory in question, or to propose a new one, as to express a hope that you will give us your opinions on this subject in that journal, the discontinuance of which, for any reason, your subscribers in this region would regard as almost a national calamity. *C. Smith. Newport, N. Y., Feb.* 4, 1850.

ANSWER.—Undoubtedly DUTROCHET's explanation of the galvanic law, by which, when two fluids of unequal density are separated by a membrane, the denser is positively, and the less dense negatively electrified; and hence two electric currents of unequal power set through the membrane, carrying the fluid with them, is correct; and it is by this law that the fluids of plants being denser than the water in the soil, the latter is, under certain conditions, continnally impelled into their systems. But the vital force—the living principle—governs even this law, and is the real cause (if that can be termed an explanation,) of the circulation and secretions of plants. ED.

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ASSOCIATION FOR COLLECTING RARE TREES AND PLANTS.—We ask the attention of our readers to the following excellent suggestion by Mr. BARRY, of Rochester. The plan is one that has worked well abroad, and seems to us very feasible at the present moment, here. We think the Massachusetts and Pennsylvania Hort. Societies will enter into the plan liberally; and we shall be glad to hear from amateurs and commercial gardeners who feel interested in the matter. ED.

Dear Sir—Since my visit to Europe last winter, the subject of obtaining seeds of the magnificent pines, firs, and other rare and valuable trees and plants of Mexico, California, Oregon, &c., has been constantly in my mind. When I saw the lawns and arboretums of England studded with them, and in Belgium and France immense ranges of houses devoted to their multiplication, and when I found that not horticultural societies alone, but individual cultivators were enthusiastically and successfully engaged in collecting and introducing them, in opposition to the most formidable difficulties, I thought, that with our much talked of enterprise, it would be most remarkable indeed if some effort of the kind should not be made here; and the more particular, as recent *golden* events have created such close and constant communication with these regions.

The botanists and horticulturists of Europe, who regard with wonder and admiration the vast vegetable riches of this continent, cannot understand why so little attention seems to be given it here, considering that such a large proportion of our population are devoted to the culture of the soil. Sir WM. HOOKER, of the Kew Gardens, and others, complained to me of the difficulty and even impossibility of obtaining from our *settled* and populous districts even, many rare species of plants, in consequence of their not being known or cultivated. The reasons for this are all obvious enough to us. The circumstances of our country, in many respects, have been such as to prevent any considerable attention to the culture of rare trees. Our best landscapes have been worked out of the original forest, which have at the same time afforded an ample supply of timber for all purposes of the arts. Arboriculture has, consequently, been, in the main, confined to fruits. A short time ago we had a correspondence with a gentleman who was about forming an arboretum; and after applying to nearly all the American nurseries, in vain, for specimens of American trees, he found he had to order most of them from Europe. The truth is, there has been no demand until quite recently for more than a few very common and well known species of ornamental trees and shrubs; and what is not in active demand will not be cultivated in this country, at least by professional cultivators.

But there are great changes going on in the condition and circumstances of this country. The natural forest is disappearing rapidly from a very large portion of the country. Towns, cities, and villages are increasing in number, population and wealth, at a pace that almost outruns the imagination. Around all these cities, towns and villages, suburban dwellings of various grades are springing up. These have no longer the native trees to shade and shelter or embellish them; and hence they must *plant*. Planting is therefore going on in a manner and spirit altogether unexampled in this country; and the prospect is, that the attention to be given it in future will quite equal the neglect of previous times. Americans seldom do things in a small way. Their ideas and plans usually partake of the grand and comprehensive. So that when we once see the public mind awakened on any given subject, we may expect to see it prosecuted in a vigorous and effectual spirit.

Throughout the whole country, we hear and see evidences of an interest in landscape gardening. The President of the Massachusetts Horticultural Society has introduced the subject in his recent annual address, and suggested that a professorship for this department be established. The prospect is that we shall soon have public gardens, in connection with agricultural schools and colleges. These are all the evidences and results of the public taste and sentiment on these matters. Within a few years, considerable quantities of rare trees have been imported from Europe, notwithstanding their high price and the many risks attendant upon their transmission. I have this moment before me an invoice of up-

wards of 40 species of new and rare evergreens, pines, firs, cedars, &c., on their way hither.

My attention, at this time, has been drawn to the subject in a particular manner, by similar and simultaneous suggestions in an English journal and your February number. Your correspondent, A. W. Corson, suggests the formation of a society for the indroduction of the trees and plants of California, Oregon and Mexico. In Edinburgh, we see by the London Gardeners' Chronicle, a meeting was held in the Botanic Gardens on the 22d of November. Lord Murray introduced a series of resolutions on the subject; one of which was—"That with the view of raising the necessary funds, each person willing to support the proposal, shall subscribe the sum of £5, or so many sums of the like amount as they may please; each subscriber being entitled for every such sum of £5 to a corresponding share of such plants and seeds as may be collected, and from time to time sent home. No subscriber to be liable for anything beyond the amount subscribed by him." This plan is the result of necessity; as it is found impossible to obtain seedling plants of the noble Conifers, discovered and introduced by the lamented Douglass. We have no doubt but the plan will be well sustained throughout Great Britain. And now, let me ask why we cannot adopt a similar mode of introducing these trees. We have great advantage over Europeans, both in regard to distance, and frequency, and regularity of intercourse. Recent events have brought us into close and constant communication with these regions; our people are scattered all over them; and it appears to me, if a competent and reliable collector could be found, that we might in one year do more for the introduction of these trees than others can do in five or ten.

It strikes me that the nurserymen of the country, and gentlemen who are making collections of rare trees, are numerous enough to raise a sufficient fund for this purpose; and if the project appears feasible to you, I would take this occasion to propose that every one who approves of, and is willing to aid the plan, will send his name to you, and state at the same time the amount he is willing to subscribe. When the subscriptions have, in this way, reached an amount that may be deemed sufficient, a meeting of the subscribers, or as many of them as could conveniently attend, might be held in some of the large cities to arrange the details. I offer these suggestions without assuming any lead or prominency in the matter whatever, simply with a view to direct attention to what appears to me, at this time, a highly practicable plan of operation. We cannot wait for horticultural societies to move in this matter; for though some of them may possess ample means, yet all the members may not agree to such a mode of expenditure. Neither can we hope for anything of consequence from parties who go to these countries unqualified for this, and with minds bent on other absorbing pursuits. Those who feel interested in the matter should associate and act immediately.

I am authorized to say that E. and B. will subscribe at least $100. Others here will undoubtedly contribute. Yours, &c. *B. Rochester, February* 19, 1850.

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Visits to Green-houses.—Mr. Floy's, Harlem. The plants here consist principally of Camellias; several of which are now in bloom, and very showy. There are also some handsome specimens of *Strelitzia Regina*, India Rubber, and other ornamental plants. The pots and houses here are, to his credit, the cleanest that came under my notice. Mr. Floy is well known to florists as the originator of a showy Camellia, commemorating his name.

Mr. Hogg's nursery, near Yorkville, possesses a large collection of the rarest and newest plants. Those I particularly noticed are *Lettsomia tomentosa*, a beautiful evergreen climber, from Peru; *Raphistemma* (asclepias) *pulchella*, stove evergreen climber, from East India; *Gardenia Fortunii*, Mr. Fortune's, from Cape Jasmine, China; *Æschinanthus Roxburghii*, a stove plant, that ought to be in every collection; *Clerodendron scandens*, var. *rubrum*, stove evergreen, from Sierra Leone; *Aphelandra aurantiaca*, a splendid stove evergreen shrub, from Mexico; *Porphyrocoma lanceolata*, a pretty stove plant, remarkable for its large heads of purple bracts and flowers; also, *Nematanthus longipes*, (formerly *Columnea grandiflora*,) one of the finest tropical plants in cultivation. It produces, from the axils of its leaves, long thread-like peduncles, bearing large, deep crimson flowers. It was collected by the late Dr. Gardner, on the Organ Mountains in 1841. I noticed, also, *Zychia parmosa*, green-house climber, from Swan river; and *Henfreya scandens*, a splendid climber, from Sierra Leone. To grow the latter to perfection, it requires a bottom heat of from 75 to 80 degrees, and to be shaded in bright sun—(Paxton.) There was a large plant of *Combretum coccineum*, showing its flower stems. One of the greatest curiosities in Mr. Hogg's green-houses, is a large specimen of *Bonapartea gracilis*, with its leaves subdividing into threads, like the well known *Yucca filimentosa*. Some nice flowering plants of *Gilia* (Cantua) *aggregata*, a pretty scarlet biennial were in bloom. There was a pretty species of *Tillandria* also flowering here; it was, like most of the genus, growing epiphytal, with some Orchids upon a block of wood, suspended from the roof; pseudobulbs, from two to three inches long, producing from their summits a stem, bearing ten or twelve exquisite blossoms; perianth purple, anthers and stigma straw coloured; bracts rose; leaves about 17 inches long, whip-like, having something the habit of *Scuticaria Steelii*. It was imported from Para. *Secropia palmata*, a tropical tree, remarkable for its beautiful foliage and hollow stems, attracted my notice. Its wood is employed by the

southern aborigines to give them light by friction. There were several fine plants of the rare *Sempervivum tabulæforme*, spreading over the pots on every side.

In addition to the foregoing, there are several Orchids growing in various ways; some in pots, some in baskets, and others in their most natural position—on blocks of wood. The representatives of this curious and beautiful order in Mr. Hogg's collection, are chiefly *Cattleyas*, *Gongoras*, *Acroperas*, *Oncidiums*, *Laelias*, *Stanhopeas*, *Maxillarias*, and *Schomburghkias*. *S. tibicinis* is, from the shape of its pseudo-bulbs, called the "Cow-horn Orchis;" when these become hollow they are used by the natives of Honduras to produce a sound similar to that made by blowing a horn.

Mr. Hogg's mode of propagating Camellias is deserving particular notice. He performs this business in the midst of winter, when little more can be done. His method is to cut the head of the stock, leaving only the lower branches; he next selects the scions from the varieties he wishes to multiply, and grafts it as low as he conveniently can. The stage in his propagating house consists of several shelves, rising one above the other from the front to the back, and at such distance as to admit of a board, 6 or 8 inches deep, to the front of each shelf; the back being also boarded, gives the shelves the appearance of troughs. These troughs are filled with animal charcoal; (that is, the refuse charcoal of sugar refiners.) The plants being ready, they are plunged in this in a reclined position, leaving only the rim of one side of the pots to be seen. The grafts are inserted so low as to have the part worked covered in the charcoal when in this reclined position. Whether this method be new to your readers I am not aware. I would recommend those who wish to get an idea of plant culture to call at Messrs. Hogg's. Their plants are principally low and thrifty, presenting none of those elongated walking canes, or poles, so frequently met with; and, what is yet more commendable, remarkably clean.

Since I last wrote, I have the pleasure to add the following to my list, viz: Mr. Hauser's, near 29th Street, 3d Avenue; Mr. Monk's, do.; and Mr. Buchanan's, 18th Street, 5th Avenue. Mr. Hauser's houses are all small; one is chiefly occupied with Heliotrope, and Mignonette; another with young Geraniums, which bear testimony to his qualification as a grower. The others are devoted to Verbenas, Roses, Daphnes, Chinese Primroses, Camellias, &c. At Mr. Monk's, the houses are well stocked, and show good culture, but are chiefly filled with a few popular genera, suited to sales in the market. Two of the houses here are filled with Roses, and another large house with young Geraniums. The remaining houses are filled with Camellias, Roses, Heliotrope, Azaleas, &c. Mr. Monk's plants are all thrifty and well grown. In closing my remarks, on this place, I would recommend those that want to buy Geraniums, either in good variety or well grown, to call at Mr. Monk's and Mr. Hauser's. At Mr. Buchanan's, two of the houses are mostly devoted to Roses; in one of which are some fine specimens of *Begonia fuchsioides*, and a large plant of *Combretum purpureum* in bloom; a third is a Camellia house, containing several of the newest kinds,—one in particular (Lowe's Elexine,) is very handsome; a fourth is a large house with a mixed collection, consisting of Camellias, Daphnes, Azaleas, Chinese Primroses, &c. Other houses are occupied with less tender things. I am, sir, respectfully yours, *M. C.*

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Catarobe Grape.—The Catarobe, as I understand it, is an European grape; at all events, it is not a western grape. It nearly resembles the Isabella in leaf and fruit, and general habit; and in the west the two are almost always confounded together, except by connoisseurs. (If it resembles the Isabella in *leaf* it is no European grape. Pray send some specimens to the fruit convention at Cincinnati next fall. Ed.) Yours truly, *J. B. Turner. Illinois College, Feb.* 27, 1850.

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Pomological Congress.—*Dear Sir:* I observe that the Ohio State Board of Agriculture, at its last annual meeting, passed a resolution, inviting the American Pomological Congress to hold its next session at the same time and place of the Ohio state fair, which is to be held at Cincinnati on the 11th, 12th, and 13th of September next; at the same time, very kindly offering to defray the expenses of printing its proceedings. This is, to be sure a very fair offer; and as such, will doubtless be duly appreciated by the members of the Congress; but for one, I hope its next session will not be held at the same time with the state fair, and for the following reasons:

1. I think it too early in the season, before nurserymen can well leave, but more particularly on account of the immaturity, and hence abnormal state of winter apples at that time.

2. There will be, in my opinion, more danger of sickness in travelling and changing climate at that season than a few weeks later.

3. The tremendous jam, confusion and fatigue inseparably attendant upon a state fair, are quite incompatible with the highest degree of success and usefulness of our Pomological Congress, and most particularly with the comfort of its members. Such at least is the result of my experience, as well as being, so far as I am acquainted, the universal testimony of others who are familiar with such matters.

It might perhaps accommodate the state fair, and all classes interested in pomology who attend it; but would not, as I think, the Congress, or its members generally. We shall doubtless be quite large and unwieldy enough of ourselves; and therefore not only deserve, but absolutely require, a clear field—an undivided chance. We shall certainly and most indispensably need *every* facility that can be afforded by the most perfect order

and quiet. Very respectfully yours, &c., *F. K. Phœnix. Delavan, Wisconsin, Jan.* 12, 1850.

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EXPERIMENTS WITH VEGETABLES.—Having been a constant reader of the Horticulturist from the issuing of the first number, and learned much in the perusal of its pages, I regard it as an incumbent duty to accompany such acknowledgment with a brief detail of some experiments which I was prompted to make from notices in your journal. The results of those experiments have, in most instances, more than equalled my most sanguine expectation, while others have exceedingly disappointed me; and in some instances their repeated trials have given me repeated mortification. That similar results would be everywhere obtained I am not warranted in saying; and furthermore, the testimony of others, equally creditable with my own, stands recorded in direct opposition to what I have to offer. The fact, that different results are obtained from experiments fairly conducted, may be accounted for from differences of climate, soil, and season, under which those experiments were made. That there are influences arising from conditions of atmosphere, which we may call *climacteric*, as well as constitutional principles of soil, affecting the growth of our vegetables, increasing or stimulating the products of our garden as well as our orchard, all may be ready to admit; but in what they specifically consist, is not in all cases so easily discovered.

The cause of the failure of the *Darling sweet corn*, as detailed below, in a region of country admirably adapted to corn, I should be happy to learn. Can you give me any light? An analogous fact is found in the failure of the Canada corn, in all the trials made of it in New-Jersey, as far as I have been able to learn. My own trial of it has been a most signal failure. The corn, known as the *Brown corn*, that originated in the neighborhood of Lake Winipiseogee, has been much lauded in the more northern states as a great yielder; and, on the farm of Mr. Crispell, of Ulster county, has been reported as yielding 90 bushels of shelled corn to the acre. for which a premium was awarded by the New-York State Agricultural Society. I obtained from Mr. Crispell a quantity of the seed, sufficient to plant a half acre, the yield of which was barely sufficient to compensate for the expense of cultivation. Would it not seem, from such facts, that there may be constitutional adaptations of this grain to particular regions of country? In other words, that when cultivated for a number of years in a region of country distinguished for its length of season, corn acquires so much of a climacteric character, adapting itself in its period of growth, be the season either long or short, as to fit it preeminently for that region, and disqualify itself for any other?

In the April number of the Horticulturist of 1848, under the head of new vegetables, you highly recommended a trial of the *Darling sweet corn*, as a variety ripening earlier than any other of the varieties known. At a considerable expense, I obtained enough of the seed to plant a half acre. It was planted under propitious circumstances, in a field well manured, and as well tilled as other fields, from which I obtained good crops. When about a foot high, very many of the stalks began to exhibit a blasted appearance; and on examination I found decay commencing at the centre of the stalk, just below the surface of the ground, looking very much as if it had been pierced by the sting of some insect. In a few days the entire stalk would wither and dry up. In this way, more than half of the field was lost; the remainder attained the height of some two feet, gave me a diminutive ear, and a diminished crop, although it ripened a few days earlier than the other varieties of sweet corn on a contiguous part of the same field. When the crop was harvested, I found the half acre had given me just a bushel and a half of shelled corn for seed. My confidence in it, as adapted to the soil and climate of New-Jersey, was somewhat shaken; but as I had known it highly prized by an individual who had grown it in the vicinity of *Albany*, as a most valuable variety for the market gardener, and knowing that our climate was better adapted to the growth of corn than northern New-York, and that no field crops were more remunerative to the farmers of New-Jersey than Indian corn, I determined to repeat the experiment the next year. Now the past season, I gave it a different location, planted the corn (having obtained fresh seed from Albany,) the 20th of April, ten days earlier than on the preceding year. The appearance of the crop was flattering, until it attained the height of a foot or more, when the calamity that overtook and destroyed more than half of the former crop, proved to be the fate of this. The part that survived for a time looked flourishing, and promised to yield me a remunerating crop, and when about two feet in height, seemed to have attained its growth, gave me. like the former one, a diminutive ear, and if possible a smaller crop.

Another calamity, to which the variety is subject, not yet alluded to, which reduced the yield of the first season smaller than it would otherwise have been, and entirely destroyed the crop of this, for seed, is this: the corn, when almost dry enough to be gathered for seed, requires a succession of dry days. An occasional shower, just at this period, will cause the chit to vegetate in the ear, and destroy the crop.

My first experiment was made on a moderately rich interval field; the last, on a southerly slope, of a gravelly loam. I need scarcely add, I am done with *Darling* sweet corn. [This corn is excellent on strong, deep, and rather clayey loams. ED.]

But of the *Turtle Soup Bean*, noticed in the same article, I can most heartily subscribe to your recommendation of it, although it has not

been a favorite bean with my family for summer use, on account of its intensely black colour, even in its green state; and which I think will forbid its ever being a popular snap-bean.* Its excellent flavor, far superior to that of any bean we have ever used, gives to the soup a richness unequalled by any other vegetable. I will venture to say, if served up on the table of the Astor House, prepared with the addition of meat-balls, *nine-tenths* of the guests would rise from the table praising the turtle soup. As a dry, winter bean, when made into soup for family use, it is certainly without its equal. Last season I made trial of some fifteen kinds of bean. No one of them is as highly prized in our family as this; and the longer we use it, the better we like it. It is a great bearer, and well adapted to light and dry soils. Tell your readers again to make trial of the Turtle Soup Bean. It can be found at SHEPHARD'S, 145 Maiden-Lane, [or at THORBURN'S,] New-York.

At another time, I may give you the result of other trials of the new vegetables. *J. M. Ward. Hill Cottage, Newark, New-Jersey, Dec.*, 1849.

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SIR—I have been a regular subscriber and faithful reader of your excellent journal, the Horticulturist, for some time, and have admired the many neat and elegant plans for cottages and country residences, drawn and described in the several numbers. But these plans, although many of them beautiful, are not exactly suited to the wants and uses of many of your *southern* readers; and the purpose of the present letter is to request that you will favor us with a few designs, suitable to our climate and our facilities, (I should say *want* of facilities,) for building in the country. The style of building generally adopted in our southern country, (I speak of *country* residences,) is neither neat or convenient; and I am satisfied if you will give your numerous southern readers the advantages of your taste and experience, you will not only effect a great improvement in the taste, but confer a public benefit by adding vastly to the comfort of the community. With us, the *summer* is the largest part of the year; and we therefore build chiefly for the summer, (of course, however, not *disregarding* the winter;) and the main points, as it seems to me, to be observed by us in building, are coolness, airiness, *cheapness*, and comfort, united with a tasteful, handsome exterior. In the sand-hills, where we have nothing to work upon but pine trees and a barren soil, it seems difficult to do much. But good taste can do a great deal; and I therefore confide the matter to your hands, assured that if you will think it worthy of your attention, you can effect everything. I remain, very truly, one of your subscribers, *P. M. E. Balfray, N. C.*

[Our correspondent will see, in the frontispiece for February, that we have profited by his suggestion. ED.]

* Our correspondent picks this bean too *late*. If picked when very young, it boils quite green, and is the *very best* of snap-beans. ED.

ANSWERS TO CORRESPONDENTS.

APRICOTS —*V. W. Smith.* (Syracuse, New-York.) As a question of *profit*, for the market, we know of no apricot that will yield so much as Dubois' Golden. It is inferior in size and flavor to Moorpark or Large Early, but we have seen Mr. DUBOIS taking wagon loads of the fruit to market getting a very high price, in seasons when the finer sorts did not produce at all. It is, in short, more hardy and productive than any other sort, and that is the point, for profitable culture. If your soil is one where the apricot bears and holds its fruit well, then we should say, by all means give the preference to the Large Early; but with the ordinary circumstances, as a *market* fruit, Dubois' is the best.

SELECTION OF NORTHERN FRUITS.—*A. F.* wishes "a small list of the best apples and pears for market culture in the Oak openings of Calhoun county, Mich." We recommend the following: *Apples*—Yellow Bellefleur, Early Harvest, Fameuse, Domine, English Russet; *Pears*—White Doyenne, Bartlett, Beurré D'Aremberg. Also, a few fine sorts for private consumption: *Plums*—Smith's Orleans, Green Gage, Jefferson; *Cherries*—May Duke, Downe's Late, Elton; *Pears*—Fondante d'Automne, Beurre d'Anjou, Seckel; *Apples*—Dutch Mignonne, Swaar, Ladies' Sweeting, Northern Spy. *B. McVicar.* (Milwaukie, Wis.) Two earliest and best *pears* for your climate, Dearborn Seedling, Bartlett; (if your site is too cold for this, then Flemish Beauty;) *Peaches*—Early York, White Imperial; *Plums*—Imperial Ottoman, Yellow Gage; *Cherries* — May Duke, American Heart, two latest and best; *Pears*—Beurre d'Aremberg, Wint'r Nelis; *Peaches*—Morris White, Old Mixon Freestone; *Plums*—McLaughlin, Jefferson; *Cherries*—Belle Magnifique, Downer's Late. The Red Dutch currant is more valuble for general purposes than either the Victoria or Cherry currants. Dr. BRINCKLEE'S raspberries have not yet been tested out of Philadelphia, but are as fine as the Antwerp, and will probably prove much hardier.

DWARF FRUIT TREES.—*An old Subscriber.* (Boston.) You can train your dwarf pear trees so as to cover the wall you speak of six or eight feet high, and the fruit will be finer if the trees are judiciously pruned, than in the usual way. Duchess d'Angouleme is one of the most magnificent pears on the quince, often weighing a pound, and of fine flavor. Red Astrachan, Dutch Mignonne, Porter, Sapson, Early Strawberry, are among the ornamental apples grown as dwarfs.

ANNUAL FLOWER BEDS—*Flora*, (Northampton, Mass.) The following annuals make fine beds, or masses, when sown so as to cover a surface of three or four feet each—none of them grow over a foot high, and they bloom all the summer and autumn. *Phlox Drummondi*, lilac, crimson, pink and white; *Escholtzia*, bright yellow; *Gilia tricolor*, white, purple and yellow; Portulacca—three sorts—purple, crimson and white;

Sweet Alyssum, white; *Silene armeria*, pink; *Nemopila insignis*, sky-blue; *Collinsia bi-color*, purple and white; the two last bloom about half the season only. Bulbs of tiger flowers, tuberoses, or Gladioli may be interspersed with these annuals, to heighten the effect. If your verbenas do not flower well, renew the soil in the beds by mixing with it one-third burnt sods.

Plum Trees.—*Prunus*, (Buffalo, N. Y.) Your soil does not suit the plum tree. Try a plentiful top-dressing, with *brewer's grains*, which Liegel, the first German authority, says is the best of all manures for the plum tree. Old or sour grains will answer, and we would advise you to cover the soil three inches deep, if they are easily obtained.

Special Manures.—*B. R.*, (Philadelphia.) We are inclined to think very highly of "bone-black," the residuum of the sugar refineries, as a special manure for pear trees, in all cases where *phosphate* is wanted; generally the case in old gardens. This bone-black, which looks like fine charcoal, contains 70 or 80 per cent. of phosphate of lime, and may be had very cheaply at most sugar refineries. The Messrs. Stuart, in New-York, sell it for $1.50 per hogshead. Give each standard tree from half a peck to half a bushel, according to its size and age; that is, including those with trunks from two to twelve inches in diameter. *A. R. P.*, (Long-Island.) Your trees want lime. Half a bushel to every tree in your orchard will not be too much. Spread it evenly over the surface as far as the trees extend.

Insects.—*J. Watson.* If you wash your grape-vines before the buds start with a mixture of soft-soap and sulphur, (2 lbs. sulphur to 4 quarts soap,) filling every crevice, especially around the buds, with a brush, it will destroy the eggs of the insects laid in the bark. *Querist*, (Baltimore.) We repeat our advice to destroy all insects in soil of the kitchen garden, by a liberal top-dressing of salt, before working the ground. Eight bushels to the acre is not to much; and it kills the grubs and benefits vegetation.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting of this society was held in the Chinese Saloon on Tuesday evening, March 19, 1850. The President in the chair.

The display on the occasion was very fine; the most striking feature in which, was a superb bed of strawberry plants, growing in pots, and in full bearing, exhibited by Ben Daniels, gardener to Caleb Cope, the President, consisting of the following varieties: Hovey's Seedling, British Queen, Buist's Early May, Keene's Seedling, Sciota and Cushing, from whom we learn that the British Queen variety, although a staminate kind, exhibits in flavor and prolificness a decided superiority over the others, and can be strongly recommended for forcing. Hovey's Seedling, Buist's Early May, and Keene's Seedling, are all good for forcing. The Burr's New Pine was tried, but did not succeed well. From the same source were two varieties of grapes,—the White Frontignan and Muscat blanc hative. In flowering plants, the exhibition was excellent. From the President's houses were some of his choicest Azaleas, Rhododendrons and Camellias. From Miss Gratz's, a rich display of Double Stocks, Roses, Fuchsias, etc. By Benjamin Gullis, a large collection; and by John Sherwood's foreman, a beautiful table. James Ritchie presented cut Camellia flowers, choice varieties; most of which, seedlings of merit. The vegetables were in good variety—many of them forced; new potatoes, asparagus, mushrooms, radishes and turnips.

Premiums were awarded as follows:

By the committee on plants and flowers. Rhododendrons—for the best specimen in a pot, to Ben Daniels, gardener to C. Cope. Azaleas—for the best three named varieties; hot-house plants—for the best grown and finest flowered three named varieties, each to Ben Daniels. Plants in pots—for the best and most interesting collection, to Benj. Gullis; for the second best, to Patrick Gallagher; for the third best, to Ben Daniels. Design of cut flowers—for the best, to Ben Daniels; for the second best, to Patrick Gallagher. For the best bouquet, suitable for the hand, to Patrick Burk. Basket, formed of cut flowers—to Ben Daniels; for the second best, to Wm. Hall. And a special premium of three dollars, to James Ritchie, for a beautiful display of seedling Camellia flowers.

By the committee on fruits. Apples—for the best five named varieties, three specimens of each, to John Perkins. They also award a special premium of ten dollars to Ben Daniels, for the magnificent display of strawberries, embracing several foreign and native varieties.

By the committee on vegetables. For the most interesting display, by a market gardener, to Anthony Felten; for the second best, to A. L. Felten; for the best, by an amateur gardener, to Ben Daniels.

Mr. Shields, late Charge d'Affairs to Venezuela, presented the society two entirely new vegetables,—the *Mapeuy* and *Apio*. On motion,

Ordered, That the thanks of the society be tendered to Mr. Shields, for a gift so acceptable.

The following gentlemen were elected honorary members of the society: The Duke of Devonshire, President of the Horticultural Society of London, Eng., and Professor James J. Mapes.

Objects shown—*Plants.*—By Ben Daniels, gardener to Caleb Cope, Eranthemum coccineum, believed to be shown for the first time; a desirable plant. Rhododendron arboreum splendens, Azalea Cunninghami, A. variegata, A. purpurea, A. alba, Camellia myrtifolia, C. Princess Royal, Franciscea latifolia, Wigela rosea, Euphorbia splendens, Oncidium flexuosum, Bernadesia rosea, Bilbergia iberidifolia, Cineraria and Primulæ sinensis.

By Patrick Gallagher, gardener to Miss Gratz, Lantana Douglassi, Melianthus major, Begonia sp., Fuchsia rosea, Azalea splendens, A. variegata, Saxifraga gandiflora, Richardia ethiopica, Cineraria King, Purpurea and Beauty, Rosa de la Reine, Hermosa, Bosanquet and Paul Jones, Ageratum grandiflorum, Lobelia, Petunia, etc.

By Benjamin Gullis, A beautiful collection.

By Wm. Burnley, Spirea prunifolia, Begonia manacata, B. sp., Erica sp., Cuphea sp., Polygala opositifolia.

Designs and Bouquets.—By Ben Daniels, a handsome moss vase of flowers, and a beautiful basket.

By Wm. Hall, a handsome basket of cut flowers.

By P. Gallagher, a cone bouquet. By P. Burke, a hand bouquet.

Fruit.—By Ben Daniels, gardener to Caleb Cope, strawberries,—a fine bed in pots of varieties,—Hovey's Seedling, British Queen, Buist's Early May, Sciota, Keene's Seedling and Cushing. Also two bunches White Frontignan, and Muscat blanc hative grapes.

By John Perkins, apples, five varieties.

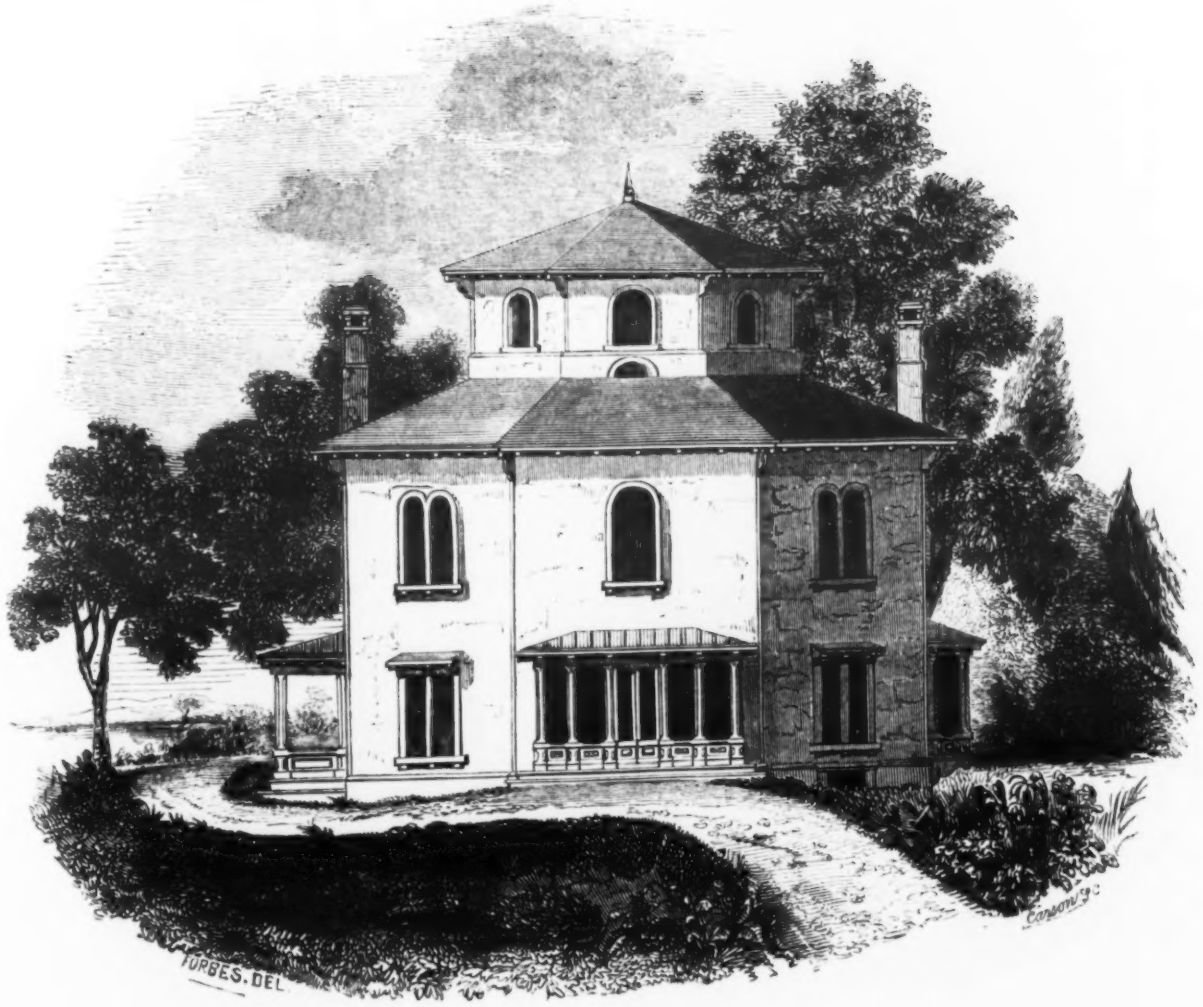
Vegetables.—By Anthony Felten, Cauliflowers, Broccoli, Butter Lettuce, Scarlet Radishes, Turnips, yellow and white do., French, Long, and Turnip Beets, Salsify, Parsnips, Drumhead, Red, Dutch and Savoy Cabbage, Potato Artichoke, Curled Kale, Black Winter Radishes, Kohrabli, Parsley and mint.

By Ben Daniels, from Spring Brook, country seat of C. Cope, new Potatoes, Mushrooms, Lettuce, Rhubarb, Sea-kale, Kidney Beans, Brussels Sprouts, Cabbage, Beets, Carrots, Radishes and Parsley.

By A. L. Felten, Asparagus, Rhubarb, White Turnip, Red Turnip, Long Radishes, Parsley and Chives.

Adjourned.

Tho. P. James,
Rec. Secretary.



AN OCTAGON VILLA

[HORT: MAY, 1850.]